



A. Purple Line Light Rail, Mandatory Referral No. MR2014033

B. Bethesda Metro Station South Entrance, Mandatory Referral No. MR2014034, CIP Project 500929

C. Capital Crescent Trail, Mandatory Referral No. MR2014035, CIP Project 501316

D. Silver Spring Green Trail, Mandatory Referral No. MR2014036, CIP Project 509975

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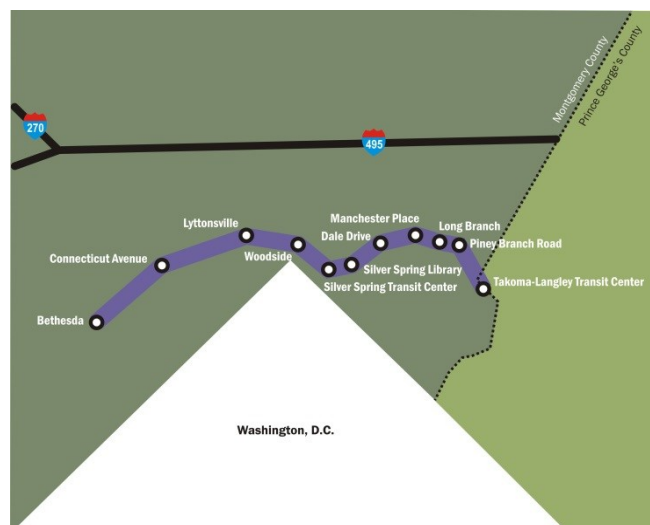
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Description

The subject of this staff report is four mandatory referrals for the Purple Line (the portion in Montgomery County only), the Bethesda Metro Station South Entrance, an extension of the Capital Crescent Trail, and an extension of the Silver Spring Green Trail.

The **Purple Line** is a proposed 16-mile Light Rail Transit (LRT) line connecting Bethesda to New Carrollton. There are ten stations in Montgomery County, including Bethesda, Connecticut Avenue, Lyttonsville, Woodside, Silver Spring Transit Center, Silver Spring Library, Dale Drive, Manchester Place, Long Branch, and Piney Branch Road. An eleventh station at Takoma Langley Transit Center is just outside of Montgomery County, but will be used by Montgomery County residents. The light rail line operates partially in exclusive right-of-way (the Georgetown Branch), partially in the roadway in lanes dedicated for transit (University Boulevard), and partially in lanes shared with traffic (Wayne Avenue). The Maryland Transit Administration forecasts



that there will be 74,160 daily boardings of the Purple Line in 2040¹. The Purple Line will be jointly funded by the federal government and State of Maryland, with some financing of the capital cost provided by the private sector. It will be designed, built, operated, and maintained by a concessionaire as part of a Public-Private Partnership.

The **Bethesda Metro Station South Entrance** is a Montgomery County project to add a second, south entrance to the Bethesda Metrorail station. The metrorail station currently has an entrance on the north end of the platform, at the intersection of Wisconsin Avenue and East-West Highway, but was built to accommodate a future entrance at the south end of the platform. The new south entrance will be located on Elm Street, just west of Wisconsin Avenue, and will connect Elm Street, the Bethesda Purple Line station, and the south end of the Red Line station platform. Two elevators will connect Elm Street to the Purple Line platform. Four elevators will connect the Purple Line level to the Red Line mezzanine. Escalators and an elevator will connect the Red Line mezzanine and platform.

The **Capital Crescent Trail** is a Montgomery County project that will extend the existing trail as a paved off-road shared use path from Bethesda to Silver Spring in conjunction with the Purple Line light rail project. This segment will typically be 12 feet wide with two-foot-wide unpaved shoulders on each side. It will serve both a recreational and transportation function, as providing direct access to both the Purple Line and the Bethesda and Silver Spring Metrorail stations.

The **Silver Spring Green Trail** is a Montgomery County project to construct an off-road shared-use path that will run between Spring Street and Sligo Creek Trail along Second Ave and Wayne Ave in downtown Silver Spring. It will connect to the Capital Crescent Trail and the Metropolitan Branch Trail at the Paul Sarbanes Transit Center. The project will extend the existing sections of the Silver Spring Green Trail along Wayne Avenue from the Whole Foods parking lot to Sligo Creek Parkway in conjunction with the Purple Line light rail project.

Summary

We recommend that the Planning Board approve the four subject projects with recommendations to the Maryland Department of Transportation (MDOT), the Maryland Transit Administration (MTA), the State Highway Administration (SHA), and the Montgomery County Department of Transportation (MDOT).

Interactive Map

An interactive map at www.mcatlas.org/purple is available to assist the Planning Board in their review of these projects.

¹ This includes special event / student boardings for the University of Maryland campus.

EXECUTIVE SUMMARY

INTRODUCTION

The Purple Line, Bethesda Metro Station South Entrance, Capital Crescent Trail, and Silver Spring Green Trail are critical projects for Montgomery County's long-term economic and social well-being. They will create alternatives to traveling by automobile in a region with some of the most congested roads, help the County to achieve its mode share goals, and encourage redevelopment in many of the station areas. Staff and the Planning Board have strongly supported this project over the years and continue to do so.

The projects as currently designed are substantially consistent with the County's approved and adopted master plans. In many locations MTA has made significant efforts to address community concerns, most notably at the Lyttonsville maintenance facility. MTA has also worked collaboratively with Planning Department and Department of Parks staff to develop and implement the vision of four recently approved station area plans affecting five of the 11 stations that will serve County residents. But, as a long-term investment in mobility and community building, there are several areas in which the project should be improved. All of the recommendations are discussed in the staff report, but the most important areas for improvement are outlined below:

Station Access

- Institutional Barriers to Enhancing Station Access
- Direct Connection between the Red Line and the Purple Line in Silver Spring
- Access to Lyttonsville Station
- Access to Woodside Station
- Access to Piney Branch Road Station

Community Design

- Town of Chevy Chase
- Wayne Avenue

Park Impacts

- Full function of all impacted parks following construction

Environmental

- Stormwater management design
- Mitigation for stream and wetland impacts

The recommendations to address these areas are boxed and shaded like this to highlight their importance in the staff report.

PROCESS

MTA is proceeding with a Public Private Partnership (P3) for the final design, construction, operation, and maintenance of the Purple Line over a 35-year period. This partnership will also help to finance a portion of the construction. Statements of Qualifications were received from six concessionaire teams in November 2013 and in December 2013 MTA announced that four concessionaires were short-listed and issued a draft Request for Proposals (RFP). The preferred concessionaire is scheduled to be selected

during late 2014. MTA project managers have indicated that the “window” for input for design refinements that could potentially be included in the RFP extends through March 2014. This mandatory referral was scheduled to ensure that MTA will have adequate time to address any potential comments and recommendations that are made by the Planning Board. MTA has indicated that design/scope changes are possible and would be handled a change order, but change orders in P3 projects are more costly and difficult to negotiate. They add that many of the items referenced in the staff report are addressed in final design and construction, not in 30% plans.

On March 4, 2014, the Federal Transit Administration announced that it is recommending the Purple Line for a Full Funding Grant Agreement, a commitment from the federal government to help pay for the project. The final agreement will define the cost and schedule for the projects, commit to a maximum level of federal financial assistance, and establish the conditions under which MTA will manage the project.

The schedule for the Purple Line is shown below:

• FEIS Record of Decision (ROD) Issued	Expected in March 2014
• Mandatory Referral	March 20, 2014
• Request for Proposals (RFP) Issued	Mid June 2014
• MTA Announces Preferred Concessionaire	Late 2014
• Construction Begins	2015
• Purple Line Opens	2020

Perhaps the greatest benefit but also the greatest challenge of a P3 solicitation process is that bidders have the opportunity to propose refinements to the project. The benefit is that proposals will be evaluated based upon a set of criteria, creating an incentive for bidders to propose innovative designs and to reduce costs. As noted in the Purple Line mandatory referral, the major features of the Purple Line project are largely consistent with approved and adopted master plans. Nevertheless, the unique procurement process presents some challenges in that more design elements are likely to be refined between when the final RFP is issued and when a preferred concessionaire is selected, and even during the concessionaire’s detailed design work.

Therefore, as the Planning Board and the public review the staff report and the accompanying mandatory referral submission documents, they should be aware that the plans as they are currently shown are not binding unless specifically identified in the RFP. Due to the sensitivities inherent in a multi-billion dollar RFP, MTA will not be discussing what is and what is not included in the RFP until the final RFP is released in mid-June 2014.

MTA is negotiating memoranda of agreement (MOAs) with major stakeholders along the Purple Line corridor, including Montgomery County, Prince George’s County, the University of Maryland, CSX Transportation, and utility companies. MTA and the Montgomery County Department of Parks and Planning Department have been in negotiations since the fall of 2013 on MOA terms that will establish the foundation for a working relationship between the Departments and MTA as the Purple Line moves forward. Parks and Planning anticipate that the MOA will be approved before MTA’s issuance of the final RFP.

Planning staff has worked with MTA to address master plan consistency items as part of the Memorandum of Agreement (MOA) with MTA. Most master plan consistency items have been addressed (see Attachment E, F, G, and H).

The Parks Department has attempted to address their concerns through the Record of Decision (ROD) and MOA. However, since the ROD has not yet been signed by FTA, the comments included in this staff report reflect what we expect to be in the ROD and the MOA.

MASTER PLAN CONSISTENCY

The Purple Line Preferred Alignment is a central element in six approved and adopted County Master Plans. These include:

- Bethesda CBD Master Plan (July 1994)
- Purple Line Functional Plan (September 2010)
- Takoma Langley Crossroads Sector Plan (June 2012)
- Chevy Chase Lake Sector Plan (July 2013)
- Long Branch Sector Plan (December 2013)
- Bethesda Purple Line Minor Master Plan Amendment (February 2014)

There are two other plans in various stages of development that also feature the Purple Line as a central element:

- Bethesda Downtown Plan – recently initiated and scheduled for review by the Planning Board during the winter of 2014
- Greater Lyttonsville Master Plan – plan development scheduled for resumption during spring of 2014 after a delay to accommodate a necessary adjustment in the Department’s master plan schedule.

The four projects that are subject to mandatory referral are in substantial compliance with the County’s approved and adopted master plans. Since six approved plans contain numerous recommendations related to the four projects, this staff report focuses on those aspects of the project that are not yet consistent with the master plan. A full analysis of master plan consistency is provided for each project in Attachment E, F, G, and H.

Page references for the Bethesda Purple Line Station Minor Master Plan, Chevy Chase Lake Sector Plan and the Long Branch Sector Plan are not provided because the final publications for the “approved and adopted” plans were not complete at the time this staff report was posted.

PREVIOUS PLANNING BOARD ACTIONS

- Adoption of Purple Line Functional Plan, July 2010
- Capital Crescent Trail Scope Refinement, November 17, 2011
- Purple Line Briefing, February 28, 2013
- Purple Line Final Environmental Impact Statement and Draft 4(f) Evaluation, October 17, 2013 (see Attachment I)
- Briefing on Purple Line Memorandum of Agreement Term Sheet between M-NCPPC (Montgomery County Only) and Maryland Transit Administration (MTA), March 6, 2014

TECHNICAL ASSISTANCE

The Montgomery County Planning Department retained the services of Toole Design Group to conduct an analysis of bicycle and pedestrian access to Purple Line stations, the Capital Crescent Trail, and the

Silver Spring Green Trail. Their technical memo provides an analysis of many aspects of the projects and is included as Attachment J.

FOREST CONSERVATION PLAN

MTA will apply to the Maryland Department of Natural Resources for review of the Purple Line, Bethesda Metro Station South Entrance, Capital Crescent Trail, and Silver Spring Green Trail for compliance with the Forest Conservation Law. A letter from MTA regarding the Forest Conservation Plan is included as Attachment K.

OUTREACH

The Maryland Transit Administration has worked extensively with the community, conducting dozens of public meetings since the approval of the Purple Line Functional Plan in April 2010. In the past year they have conducted two open houses, and multiple meetings with Neighborhood Working Groups and other stakeholder groups.

As part of the mandatory referrals, the Montgomery County Planning Department has conducted the following outreach activities:

- Public notice issued on February 21, 2014
- Creation of a webpage at www.montgomeryplanning.org/purpleline
- Creation of an interactive map that displays the draft staff comments, the final Planning Board comments, and responses from agencies once received. The interactive map can be accessed at www.mcatlas.org/purple
- Broadcast via Infoshare on February 21, 2014, February 28, 2014, March 7, 2014, and March 14, 2014 (forthcoming)

TRANSMITTAL

We recommend that the Planning Board transmit its comments to MTA as the agency that has proposed to construct the four projects. These comments should be considered in the preparation of the Request for Proposals (RFP) and should be reflected to the greatest extent possible in the provisions of that RFP.

This is a large and complex group of projects that requires funding from different sources and approvals from different agencies. Where an agency other than MTA is expected to be the decision-maker on a particular issue, that agency is specified in parenthesis at the end of the comment, but the comment should still be considered as guidance to MTA as to the preferred condition.

Many of the major station areas are on State highways and therefore the assistance of the State Highway Administration (SHA) is essential in achieving optimal pedestrian and bicyclist accommodation to these stations. We therefore recommend that in addition to transmitting the Planning Board's comments directly to MTA, with copies to MCDOT and SHA, a letter should be sent to the Secretary of the Maryland Department of Transportation requesting that the agency ensure that the Planning Board's comments are adequately considered, coordinated, and addressed by both MTA and SHA, two of its constituent agencies, and that optimal pedestrian and bicyclist accommodation is achieved on this project, which is of statewide and regional importance.

While Montgomery County is providing substantial funding for the three projects that are associated with the Purple Line, the assistance of MCDOT is critical to ensuring that the roadways and traffic

signalization are designed in a way that prioritizes pedestrian and bicycle movement in station areas and that adequate and safe pedestrian and bicycle facilities are provided along County roads. In addition to copying MCDOT on the comments directed to MTA, the transmittal letter should make clear where there are additional items that are MCDOT's primary responsibility to undertake. Draft transmittal letters are included as Attachment A, B, C, and D. The Planning Board's comments on the four projects will be included as attachments to each letter.

Prince George's County is also conducting a mandatory referral for the portion of the Purple Line within its border.

NEXT STEPS

Upon completion of the mandatory referral, we expect that MTA will coordinate responses from each of the agencies (MDOT, SHA, and MCDOT), and that all comments will be reviewed in a timely manner for potential incorporation into the Purple Line RFP. Staff will post all of the responses on the interactive map.

- MCDOT, MDOT, SHA, and MTA should provide responses to the Planning Board's recommendations within 45 days.
- Department of Parks and Planning Department staff will participate in an interagency working group to review and comment on the projects through final design.
- MTA should provide regular briefings throughout the final design, construction, and testing phases of the project, much as the state did for the Intercounty Connector project.

ORGANIZATION OF STAFF REPORT

The following sections of the staff report contain separate mandatory referrals for each of the projects:

- Mandatory Referral #1: Purple Line Light Rail
- Mandatory Referral #2: Bethesda Metro Station South Entrance Project
- Mandatory Referral #3: Capital Crescent Trail
- Mandatory Referral #4: Silver Spring Green Trail

Each section begins with a summary of staff recommendations, including general staff recommendations and location-specific staff recommendations. This is followed by a project description, master plan consistency, and staff analysis. Recommendations are italicized and displayed with an arrow icon ➡. The most critical recommendations are boxed and shaded like this to highlight their importance in the staff report.

To facilitate the Planning Board's review of the mandatory referral comments recommended by staff, we have created an interactive map at www.montgomeryplanning.org/purpleline that includes the geographic location of each of the staff's location-specific comments along the Purple Line corridor and is accompanied by an image that illustrates the issue. Click on the map to review the issues.

ATTACHMENTS

Attachment A: Draft Letter to the Maryland Transit Administration

Attachment B: Draft Letter to the State Highway Administration

Attachment C: Draft Letter to the Montgomery County Department of Transportation

Attachment D: Draft Letter to the Maryland Department of Transportation

Attachment E: Analysis of Master Plan Consistency for the Purple Line
Attachment F: Analysis of Master Plan Consistency for the Bethesda Metro Station South Entrance
Attachment G: Analysis of Master Plan Consistency for the Capital Crescent Trail
Attachment H: Analysis of Master Plan Consistency for the Silver Spring Green Trail
Attachment I: Final Environmental Impact Statement Letter from the Planning Board
Attachment J: Toole Design Group Peer Review
Attachment K: Letter from MTA Regarding Forest Conservation Plan
Attachment L: Letter from Town of Chevy Chase to MTA dated January 29, 2014
Attachment M: Brookville Road Access Alternatives
Attachment N: Letter from Residential Wayne Ave Group for Purple Line Design
Attachment O: De Minimis Letters

A. MANDATORY REFERRAL #1: PURPLE LINE LIGHT RAIL

Mandatory Referral No. MR2014033

RECOMMENDATIONS

Staff recommends that the Planning Board transmit the following comments on the Purple Line project to MTA for consideration in the Request for Proposals (RFP) unless another agency is specified in parentheses at the end of the comment.

Regulatory Comments (for more detail see: www.mcatlas.org/purple)

We ask the Planning Board, sitting as the Parks Commission, to **approve the following conditions** tied to use of parkland to accommodate the project. The Purple Line project impacts six M-NCPPC parks in Montgomery County. From west to east, these parks are:

- Elm Street Urban Park
- Rock Creek Stream Valley Park
- Silver Spring Transit Center Easement
- Sligo Creek Stream Valley Park
- Long Branch Local Park
- Long Branch Stream Valley Park
- New Hampshire Estates Neighborhood Park

Additionally, the project impacts a park/plaza easement at the Silver Spring Transit Center.

The impacts to each park are described in more detail later in this memorandum, and also the associated mitigation strategies and other recommendations. Absent the Federal Record of Decision (ROD), which we understand will be issued by the U.S. Department of Transportation in March, it is difficult for staff to know precisely the project's mitigation requirements for parkland impacts.

In order to ensure that no issues fall through the cracks, we have elected to include all comments from the FEIS Review in October 2013, as well as comments on the more detailed 30% drawings that were included in the Mandatory Referral submittal. We have also included comments from the Memorandum of Agreement (MOA) Term Sheet, which the Planning Board will be reviewing. Attached are the de minimis letters for each park that were signed by the Department of Parks in 2013. Please note that the de minimis letters (see Attachment O) were written and agreed to based on information provided in the 2013 FEIS report. There is information contained within this staff report that may be currently out of date, and/or has been addressed by MTA in their subsequent submissions of design plans for the Purple Line.

Parks has a vested interest in the temporary and long-term conditions of parklands impacted by the Purple Line. The current plans do not have detailed information because of the design-build nature of the project, to fully determine the ultimate condition of parkland following condition. However, the final design plans will be reflected in the park permit that is ultimately issued for this project.

- All parks shall be restored to a fully functioning condition for long-term park usage following construction.

Transit Park/Plaza Easement Area Located at the Silver Spring Transit Center

- MTA and the Department of Parks agree to work collaboratively to ensure a high quality design is achieved, utilizing materials previously approved for use within the Transit Plaza Easement Area, (as identified in Exhibit E of the MOU), for this important heavily used civic space. Special consideration shall be given to locating features associated with the Purple Line construction so as not to render the Transit Plaza Easement Area ineffectual as open space, or limit its intended use for ingress and egress from the Transit Center, or as an attractive portal to downtown Silver Spring.

Sligo Creek Stream Valley Park

- The Purple Line and Silver Spring Green Trail construction will require the reconstruction of the existing Sligo Cabin parking lot to safely reestablish the maximum number of parking spaces practicable and interconnections with the playground, hiker/biker trail, and track area. All reconstructed areas shall meet SWM regulations and be ADA-compliant. Parks is willing to allow underground SWM below the reconstructed parking lot to help MTA provide better SWM treatment for the upstream drainage area.
- MTA will work with Parks to develop the full design of the Sligo Creek Trail along and across Wayne Avenue including signage, safe road crossing, and functional interconnections at each end. The current design shows a path width of 8'9" over the bridge, while M-NCPPC has expressed a goal of providing a width of up to 14-feet. The Interagency Work Group will review design options to with the goal of achieving a wider trail section along the Wayne Avenue bridge structure up to a maximum width of 14-feet. .
- The extents of construction required to functionally restore the parking lot at Sligo Cabin Park is unclear based on the drawings submitted with the MR. The drawings do indicate storm drain construction in close proximity to the existing track and associated features, and MTA will be required to functionally restore affected facilities to an acceptable condition by Parks (and MCPS).
- Design the retaining walls, bridge barriers, handrails, fences and guardrails at the Sligo Creek Stream Valley Park with aesthetic consideration for park and trail users, in consultation with M-NCPPC, Montgomery County Department of Parks
- Increase the amount of proposed landscaping for the Sligo Creek Stream Valley Park, in consultation with M-NCPPC, Montgomery County Department of Parks.

Long Branch Stream Valley Park

- The Interagency Work Group will further study and recommend appropriate designs for modification of the existing stream crossing under Piney Branch Road with the goal of creating an environmentally sensitive stream crossing and provide upstream and downstream channel improvements to establish long term stream stability and fish passage.
- MTA will need to provide a non-native invasive (NNI) management plan for long-term eradication.

Long Branch Local Park

- MTA will close the old parking lot entrance along Piney Branch Road and construct a new park entrance to align with the Barron Street intersection, and functionally interconnect to the existing parking lot, including entrance sign relocation, pavement removal, and appropriate

landscape planting. Stormwater treatment will be provided for the new park entrance and Long Branch Trail extension.

- MTA will reestablish the Long Branch Trail to cross Piney Branch Road at Barron Street and parallel the new park entrance road into the Long Branch site, including signage, safe road crossing, and functional interconnections at each end of trail.
- One issue that is going to require interagency cooperation to resolve involves the left turn into the park. While the new driveway entrance into the park permits left turns out of the park, there are no provisions at this time to permit left-turns in. To accommodate left turns in, one of two things will need to happen: 1) MTA and SHA will provide a dedicated left-turn lane from east-bound Piney Branch Road; or 2) MTA and SHA will allow left-turns into the park from the left travel lane. Solution #1 is unlikely due to space constraints along Piney Branch Road; other roadway/pedestrian/park trail improvements will need any new space gained along this road as part of redevelopment. Solution #2 continues to be studied by MTA. It is possible that left-turns into the park could be permitted during specific peak-periods (such as swim meets, community events, etc.).

New Hampshire Estates Neighborhood Park

- Access to all park facilities will be maintained throughout construction. Temporary parking facilities to replace the existing parking lot shall be provided off Piney Branch Road prior to the closure of the existing lot. The temporary parking lot shall be ADA-compliant and functionally interconnected with existing park facilities.
- MTA will replace long-term on-site parking consistent with existing facilities based on concept plans to be provided by the Department of Parks, which demonstrates full restoration of all park amenities impacted by the Purple Line construction, including the removal of all abandoned infrastructure due to reconstruction.
- Protect existing trees in the park.
- Reestablish the park pedestrian entrance from University Boulevard.

General Comments

- A. In future P3 projects endeavor to provide greater assurance to the public and municipalities about what aspects of the project are binding and what aspects of the project the bidding concessionaires have the opportunity to change, before the final concessionaire is selected. If the final design of the project changes in any substantial way from what has been presented to the Board for review, the requirement in State law for Mandatory Referral of the project will not have been met and MTA will need to resubmit the project for Mandatory Referral.
- B. Provide regular briefings to the Planning Board on the Purple Line project over the course of final design and construction, much as the state did for the Intercounty Connector project.
- C. Commit to regular meeting with neighborhood working groups throughout final design and construction of the project to: 1) provide communities with regular updates, 2) hear community concerns with construction, 3) to receive feedback on final design treatments.
- D. Consider approved design guidelines established for station areas and community feedback for the design of retaining walls, traction power substations, catenary poles and wires, and other structures that will have a visual presence.
- E. Conduct a multimodal level of service analysis within the immediate station areas. If deficiencies are identified, MTA, in coordination with MDOT, SHA, and MCDOT, should identify potential solutions and incorporate them into the Purple Line RFP.

- F. Commit to providing quality pedestrian and bicycle improvements between stations and the communities in their immediate vicinities. (MCDOT, SHA, MTA, MDOT)
- G. In addition to sending comments to MCDOT, SHA, and MTA as the agencies directly responsible for incorporating specific changes or additions to the projects covered by these mandatory referrals, MDOT should take the lead to ensure the highest level of coordination among the agencies. (MDOT)
- H. Conduct a thorough review of this project with the goal of meeting both AASHTO recommendations for pedestrian facilities as well as ADA Best Practices at a minimum. In commercial areas, a higher level of accommodation is required to ensure that transit patrons have safe and adequate access, that potential patrons are encouraged to use the Purple Line and justify the State's and County's significant investment in this facility, and to support and promote transit-oriented development. Identify near term and long term improvements to enhance station access. (MTA, MCDOT, SHA, MDOT)
- I. Conduct a bus service planning study to determine how routes, frequencies, span of service and the location of bus stops will be adjusted when the Purple Line opens for service. MCDOT should also coordinate service changes for Metrobus routes with WMATA. (MCDOT)
- J. All intersections must be made fully ADA-compatible. At intersections where a safe crossing cannot be provided, signs prohibiting the crossing to all pedestrians should be installed, but MCDOT and SHA must ensure that there are adequate crossing opportunities, particularly in the vicinity of all bus stops. (MCDOT, SHA)
- K. Utilize a "Bicycle Pedestrian Priority Area Projects" annual program to enhance pedestrian and bicycle station access in locations where redevelopment is unlikely in the next 5 to 10 years. This program was recommended by the County Council's Transportation, Infrastructure, Energy, and Environment (T&E) Committee on February 24, 2014 and will be taken up by the full Council in the coming weeks. (MCDOT)
- L. Establish a mechanism during the final design and construction phases of the Purple Line project to enable Montgomery County to supplement Purple Line funding to enhance pedestrian and bicycle station access in locations where additional infrastructure is needed. This will ensure efficient use of public funds and minimize post-Purple Line disruption.
- M. Estimate the number of bicycle parking spaces needed at each station based on the Purple Line / Red Line Urban Design Guidelines and determine how many additional spaces are needed beyond what the Purple Line project can accommodate.
- N. Work with Montgomery County Planning staff to identify forest mitigation opportunities outside of parkland prior to approval of the Forest Conservation Plan.
- O. Minimize the clearing of the forest along with its associated steep slopes and erodible soils.
- P. Provide the draft Maryland Forest Conservation Plan when available for staff comment and information about the quantities proposed for forest clearing, specimen tree removal, and mitigation sites.
- Q. Modify the landscape plans to include the circle with an "X" in the legend to differentiate the trees that will be removed from the trees that are proposed for planting.
- R. Provide native canopy cover landscape trees as a replacement for canopy tree loss due to the construction of the Purple Line. Canopy cover trees must reach a height of 50 feet or greater at maturity.
- S. Provide uniform tree planting spacing (35'-40' on center) and additional native canopy tree cover in the following areas within the Limits of Disturbance, where feasible, in the locations specified in the staff report.

- T. Work with property owners to plant additional native trees, flowering trees, or shrubs on their private property as buffers to the Purple Line: 1) North side of the Purple Line from station 123.5-127, and 2) North and south side of the Purple Line at stations 349-352.
- U. Staff requests MTA collaborate with Columbia Country Club for tree replacement locations and species preferences as there are numerous trees being removed and planting proposed which may further affect the view and experience of the Club members.

V. Collaborate with M-NCPPC Parks Department to provide acceptable plantings for stratified reforestation areas (non-mitigation sites) on parkland to include shrubs, flowering and canopy trees in the following Park natural areas: Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Long Branch Stream Valley Park

- W. Demonstrate how the noise levels will either be abated for, or be in compliance with federal noise requirements for the seven single family residences and four apartment buildings identified as M-23, M26, M-27A & M-28 in the FEIS (Noise Technical Report, page 20).

X. Work with M-NCPPC and DEP staff to provide stormwater treatment within the alignment.

Y. While MTA is only required to meet minimum MDE standards for stormwater management ('SWM') on this project, there appear to be significant opportunities to retrofit existing untreated impervious areas that drain through the project area that would help mitigate some of the existing water quality issues along this urban corridor. M-NCPPC requests that MTA view this as an opportunity to provide additional SWM treatment to these areas and that they continue to work with DEP and the Department of Parks to determine stormwater management opportunities within the impacted watershed. Additionally, it is imperative that the design team identify ways to maximize on-site treatment, ensure impervious runoff is actually intercepted, and balance the treatment facility capacity with the impervious areas draining to them.

- Z. Based on the Department of Parks initial review of the Concept SWM Plan for the Purple Line, we believe more work needs to be done to intercept and adequately treat runoff from impervious areas within the LOD that discharge directly onto parkland. Where site constraints restrict on-site stormwater management, the Department of Parks would like to work with MTA to identify potential sites for stormwater management on parkland to treat this runoff.
- AA. Continue to work with the Department of Parks and DEP to identify specific areas for compensatory wetland mitigation down-county and as close to the affected wetlands as possible.
- BB. Continue to work with the Parks Department and DEP to identify specific areas for stream mitigation down-county and as close to the affected stream reach as possible.
- CC. Provide occupancy sensors on all platforms to dim lighting to 50% when platform is vacant. This will reduce energy costs and lower glare to drivers and the neighborhood. (MTA)
- DD. Plant grass between and along the tracks where the line is parallel to the Capital Crescent Trail and where the tracks are in dedicated lanes and not on a bridge or in a tunnel.
- EE. A consistent approach to the architectural style of each station can be maintained for all of the Montgomery County stations, however, MTA could incorporate art as part of an Art in Transit program, interpretive signage and wayfinding, lighting and landscaping, and pavers and building materials that represent the historical context unique to that station.
- FF. Design each substation to fit in with the context of the immediately surrounding neighborhood and/or should make every effort to minimize both the visual and noise impacts of the substations. Each substation should be evaluated for undergrounding where feasible, especially in high-visibility areas. Where appropriate, design of structures can mimic local vernacular to minimize visual impact.

GG. The catenary system used should minimize the visual impact. Other ancillary gear such as constant tension weights and electrical transmission cables should be covered or concealed within the pole structure.

HH. Continue to work with the Town of Chevy Chase to address design refinements to the Purple Line and the Capital Crescent Trail to provide an additional grade-separated crossing of the trail and to reduce noise impacts and impacts to Elm Street Urban Park. (MCDOT, MTA)

- II. Create a mechanism during final design of the Purple Line to accommodate reasonable refinements at the Lyttonsville and Woodside stations that are identified during the preparation of the Greater Lyttonsville Sector Plan.
- JJ. Continue to work with the Planning Department during the Greater Lyttonsville sector planning process to accommodate the potential for improved access and community development.
- KK. Utilize all opportunities for spot landscaping along the retaining wall and sound barriers along the Capital Crescent Trail to reduce their apparent size and intrusiveness on the neighborhood.

Location Specific Comments (for more detail see: www.mcatlas.org/purple)

Bethesda Station Area

- 1. Should an agreement be made by mid April 2014 to demolish the Apex Building to allow an improved Bethesda station design to be built, MTA must submit the “alternative” station design to the Planning Board as a mandatory referral.

Connecticut Avenue Station Area

- 2. Consider whether it is feasible to integrate the traction power substation at Connecticut Avenue into the elevated fill for the tracks and trail, with service doors along the retaining wall, to reduce visual impacts.
- 3. If feasible, redesign the geometry of the abutments to be parallel to Connecticut Avenue.
- 4. If feasible, redesign the Connecticut Avenue bridge structure to reduce visual obstructions both below and above the rail/trail bed. Staff suggests a shallow arch structure (or steel girder of similar profile if required) as the basis for design. This comment is consistent and more in keeping to the design intent indicated in the Chevy Chase Lake Master Plan. A similar design should also be considered for the proposed bridge over “New Street” just east of Connecticut Avenue.
- 5. Design the trail to accommodate a stair on the north side of the trail and the east side of Street B-1 to be provided by developers at a future date.
- 6. Construct a 100-foot-wide underpass for Street B-1 in the Chevy Chase Lake Sector Plan.
- 7. Given the adjacency to residential and public spaces, the fill retaining walls should be designed with visual articulation. One suggestion is to provide concrete arch niches with appropriate depth to incorporate future community art. Pilasters between the niches can incorporate masonry veneer or stamped concrete forms to resemble local brick or stone materials.
- 8. Provide wall-wash lighting along the Connecticut Avenue abutment walls to enhance pedestrian safety.

Lyttonsville Station Area

- 9. TPSS #3 should be screened in accordance with the wooded surroundings. At a minimum, a masonry exterior, screening of all exterior roof systems, and a board-on-board fence rather than

a chain link fence surrounding the structure must be provided to properly blend with the wooded surroundings.

10. The maintenance and operations building must meet or exceed LEED Silver ratings as required for all commercial structures in Montgomery County.
11. Consider a bus stop with a pull-off area on Brookville Road instead of Lyttonsville Place and improve the crossing of Brookville Road at Lyttonsville Place for pedestrians. (MCDOT)
12. Eliminate the acceleration lane on the north leg of the intersection of Brookville Road and Lyttonsville Place. Instead use the space for wider sidewalks and bike lanes to provide continuity from the proposed sidewalks on the Lyttonsville Place bridge. (MCDOT)
13. Include criteria in the Purple Line RFP that incentivizes a further reduction in the size of the Lyttonsville maintenance facility to avoid impacts north of the Lyttonsville Place bridge.
14. Provide an elevator on the east side of the Lyttonsville Lane bridge leading down to the platform centerline, consistent with the Purple Line Functional Plan.
15. In addition to lighting the Capital Crescent Trail under the Lyttonsville Place bridge, provide wall-wash lighting along the bridge abutment walls to enhance pedestrian safety. (MCDOT)
16. The Lyttonsville Station and associated trail, stair, and ramp access should be designed to reflect their status as community landmarks; incorporating public art that depicts the cultural and historic features of the community. Particular emphasis should be placed on Lyttonsville's African American heritage. Staff recommends that Art in Transit funds be utilized for the entry canopy at the top of the Lyttonsville Place bridge to the pedestrian ramp in order to provide a memorial, historical marker, and community information boards. This area could also contain directional maps of the Lyttonsville area. Furthermore, the retaining walls can be made available for public art to call attention to the natural and social history of Greater Lyttonsville.
17. Widen the proposed 5-foot-wide sidewalk on both sides of Lyttonsville Place to at least 7 feet to meet AASHTO recommendations and provide bicycle lanes by removing the "activity lane." (MCDOT)
18. The glazing shown on the staircase from Lyttonsville Place to the Purple Line platform (see Volume 7, Plan Sheets 167 and 169) must be designed to allow maximum light infiltration and to be transparent from the platform to ensure "eyes on the street" or in this case, "eyes on the stairs" for essential safety precautions, in support of Crime Prevention through Environmental Design (CPTED) guidelines.
19. Provide a larger landing area at the base of the proposed ramp down to the Capital Crescent Trail from Lyttonsville Place. The landing and crossing could be designed to incorporate local historical and cultural enhancements. (MCDOT)
20. The conflict point on the Capital Crescent Trail at the ramp from Lyttonsville Place should include features that inform bicyclists of pedestrian crossings. (MCDOT)
21. Conduct final design for station access from Brookville Road to the Lyttonsville Station platform based on feedback from the Planning Department.
22. Adjust the overhead catenary system poles and downguy locations at the Lyttonsville Station to accommodate the three identified alternatives for station access from Brookville Road. Locate the track crossovers just to the east of the Lyttonsville station platform to not preclude a future access point from Brookville Road.
23. Since Stewart Avenue will be the main access route for employees at the Forest Glen Annex until a new access point on Brookville Road can be constructed, reduce the parking lane widths on Stewart Avenue to 8 feet and reallocate that space to the sidewalk area to achieve a 5 foot buffer and 10 foot sidewalk on the south side and a 9 foot sidewalk on the north side. (MCDOT)

24. Provide a traffic signal at the intersection of Brookville Road and Stephen Sitter Avenue. (MCDOT)

25. Continue to investigate shifting the location of TPSS #4 just to the north in the area bounded by the Georgetown Branch, the Metropolitan Branch, and the industrial property. If the substation cannot be relocated, MTA should design a substation that resembles a single story home with materials that resemble the existing homes in the area.

Woodside Station Area

26. To ensure safe pedestrian access from the west side of 16th Street to the Woodside Station: 1) replace the "Maryland T" intersection at the existing Spring Center with a normal tee intersection that does not have the splitter island in the median; 2) provide a pedestrian refuge on the south leg of the new tee intersection; and 3) provide a pedestrian-actuated traffic signal at the new intersection. (SHA)

27. Eliminate the free right turns and realign Spring Street and the Spring Street Bridge to form a tee intersection with 16th Street as part of the reconstruction of the Spring Street bridge. (SHA/MCDOT)

28. At the intersection of 16th Street and Spring Street provide a minimum 6-foot-wide median pedestrian refuge on the north leg of the intersection. (SHA)

29. Eliminate both rows of parking on the Spring Street bridge. Widen the proposed 5-foot-wide sidewalks to 13 feet wide. Separate the 16-foot-wide shared travel lane into 11-foot-wide thru lanes and 5-foot-wide bike lanes.(MCDOT)

Silver Spring Transit Center Station Area

30. The design of TPSS #5 should allow air rights over the substation so that future development can fully utilize the CBD-3 density allowed at this location.

31. Determine whether the addition of the Purple Line above the Red Line station will exacerbate the high winds and driving rains at the Metrorail station. If this is likely to occur, MTA should modify its station design to reduce the effect.

32. Assess whether any of the vertical circulation between the Silver Spring Transit Center and the CSX/Red Line/MARC could be reduced if a direct connection between the Red Line and Purple Line was constructed as part of the Purple Line, and therefore what the marginal cost would be to add the direct connection.

33. Evaluate whether it is possible to provide direct access to the Purple Line mezzanine from the Capital Crescent Trail to the east of the escalator.

34. At the Silver Spring Transit Center provide a more direct connection from street level to the Purple Line platform for passengers needing elevator access.

35. Design and construct a convenient direct connection between the Red Line and the Purple Line at the Silver Spring Transit Center station. (MTA, MCDOT)

36. Relocate the stormwater management facility proposed on the remnant of 1110 Bonifant Street to an offsite location. After completion of the Purple Line, the County should be given first right of refusal for use of the remnants of this parcel for the Silver Spring Bicycle Parking Facility.

Bonifant Street

37. The ramp on the south side of the road is shared use path width, but the ramp directly across the street on the north side of “Ripifant Road” is smaller than shared use path width. Both ramps should be shared use path width and aligned. (MCDOT)
38. The sidewalk and curb on the north side of Bonifant Street between Dixon Avenue and the alley should be reconstructed so that they are in alignment with the sidewalks on either side. (MCDOT)
39. The sidewalk on the south side of Bonifant Street between the alley and Georgia Avenue appears to be as narrow as two feet wide at the eastern end. Ensure that this sidewalk meets the ADA minimum. (MCDOT)
40. The sidewalk bump out at the northeast corner of Georgia Avenue and Bonifant Street will be eliminated, narrowing the sidewalk to about three feet at the Quarry House entrance. Ensure that this sidewalk meets the ADA minimum (i.e. it has a clear width of at least 3 feet). (MCDOT, SHA)
41. The sidewalk bump out at the southeast corner of Georgia Avenue and Bonifant Street would be eliminated, but this elimination appears unnecessary. The bump out should be retained to shorten the pedestrian crossing distance on the east leg of the intersection. (MCDOT, SHA)

Silver Spring Library Station Area

42. At the Silver Spring Library station, the area with the detectable warning surface should be widened and better integrated with the plaza at the corner of Bonifant Street and Fenton Streets. (MCDOT)
43. At the Silver Spring Library Station: 1) Confirm that the proposed utility modules will not create an unacceptable conflict and safety problem with pedestrian access, 2) Continue to coordinate with the library on the issue of lighting and investigate whether attaching fixtures to the building overhang at the station is a feasible option, and 3) Eliminate the utility modules/poles on the platform where pedestrian circulation is most constrained and relocate their operable features to other poles wherever possible.
44. The sidewalk at the southwest corner should be constructed to go directly between the Wayne Avenue and Fenton Street ramps and be 12 feet wide to accommodate a high level of activity. The space between that sidewalk and the radius curb should be made of a non-traversable surface to discourage pedestrians entering this location. (MCDOT)
45. The proposed sidewalk at the southeast corner of Wayne Avenue and Fenton Street should be constructed behind the ramps. While the current design meets ADA requirements, it is far from meeting ADA Best Practices, which should be followed at this major downtown intersection that is immediately adjacent to the station. (MCDOT)

Wayne Avenue

46. The sidewalks on the south side of Wayne Avenue should be widened to 6 feet with landscaped buffers from traffic wherever the right-of-way is available to do so. (MCDOT)
47. Underground existing utilities on Wayne Avenue. Street lights should be affixed to the catenary line overhead. Pedestrian lighting on either side of Wayne Avenue should use Washington Globe street light required by the Silver Spring Streetscape Standards. This same detail should be used for any other specified pedestrian scale lighting along the Purple line in Silver Spring, including the bridge over Sligo Creek. All specified fixtures, fastenings, and finishes should be submitted to M-NCPPC for review.

48. Design the Wayne Avenue substation housing to resemble a single-family home that fits in with the neighborhood.
49. On Wayne Avenue where a solid extension of the retaining wall is used as a vehicular guardrail, use metal square-tube guardrail instead to lessen the impact of the retaining wall for pedestrians.
50. At the school property the retaining wall ranges from 10 feet to 15 feet high. Consider terracing the wall as two 5-foot to 7-foot high walls, where space permits, in order to reduce impact of one large wall adjacent to sidewalk. Also consider using metal square-tube guardrail instead to lessen the impact of the retaining wall on pedestrians.

Dale Drive Station Area

51. The intersection of Wayne Avenue and Dale Drive should be changed to eliminate these turn lanes in favor of providing a dedicated transit lane in the eastbound direction, shifting the platform one lane to the north and creating a pedestrian refuge on the west leg of the intersection. (MCDOT, MTA)
52. The dual sidewalks along Dale Drive between Wayne Avenue and the school driveway should be combined into one wider sidewalk that is offset from the curb. The sidewalk north of the school driveway should be offset from the curb similar to what exists now but with a straighter alignment. (MCDOT)
53. Provide bollards along the edge of the pedestrian refuge located between the crosswalk and the tracks to deter cars from deliberately or accidentally driving up onto the platform ramp. It will also serve as a physical cautionary before entering the track or street.
54. At the Dale Drive Station, provide a pylon at the southeast corner of the intersection of Wayne Avenue and Dale Drive.

Manchester Road Station Area

55. On Wayne Avenue between Sligo Creek Parkway and Manchester Road, a raised island should be constructed between the two turn lanes to ensure that unwanted vehicular moves are not enabled and encouraged. (MCDOT)
56. Continue to explore ways for cyclists traveling on Wayne Avenue to cross the Purple Line tracks at a 60 to 90 degree angle.

Long Branch Station Area

57. Evaluate ways to reduce the visual and noise impact of the substation at the corner of Flower Avenue and Arliss Street.
58. Continue to evaluate ways to reduce the likelihood that people will enter the Arliss Street portal.
59. Provide a traffic signal at the intersection of Arliss Street and Garland Avenue to facilitate crossings between the “super block” and the Long Branch Library and Oak View Elementary School. Add a crosswalk across Arliss Street on the west side of the intersection. (MCDOT)

Piney Branch Road

60. Increase the width of the sidewalks on the north side of Piney Branch Road, between the Flower Theater and Arliss Street, to 10 feet by reconfiguring the parking lot. (MTA, SHA)

- 61. Extend the Piney Branch Road culvert at Long Branch to permit future construction of a 10-foot-wide sidewalk.
- 62. Construct the sidewalks on Piney Branch Road to be a minimum of 6 feet wide with a three-foot-wide landscaped offset or ten feet where adjacent to the curb, but evaluate where the sidewalks can be further widened. (SHA, MTA)
- 63. If the driveway to the Long Branch community center at the intersection of Piney Branch Road and Barron Street is realigned either before or during the construction of the Purple Line (either by MTA or another entity), the driveway design should locate the crosswalks on the east and west leg of the intersection at 90 degree angles from Piney Branch Road to reduce the pedestrian crossing distance. (SHA)
- 64. Along the frontage of publicly owned property, construct the sidewalks to be 15-feet wide per the Long Branch Sector Plan Design Guidelines.

Piney Branch Road Station Area

- 65. Provide a traffic signal at the intersection of University Boulevard and Gilbert Street. (SHA)
- 66. Include design allowances to enable access to the station from Gilbert Street, via a walkway up the middle of University Boulevard, once the intersection is signalized.
- 67. Embed the Purple Line tracks at the intersection of University Boulevard and Gilbert Street.

University Boulevard

- 68. Construct cycle tracks (or buffered bike lanes) on University Boulevard where right-of-way is available, and transition from the cycle tracks to regular bicycle lanes where the right-of-way is constrained. However, if there is not agreement to construct cycle tracks (or buffered bike lanes), provide 8-foot-shared use paths along both sides of University Boulevard where right-of-way is available or property acquisitions occur as recommended in the Long Branch Sector Plan and Takoma / Langley Crossroads Sector Plan. Where sufficient space is not available, the shared use path should transition into a sidewalk. (SHA, MTA)
- 69. On both sides of University Boulevard grade and keep clear of structures a 23-foot-wide area adjacent to the curb where right-of-way is available or property acquisitions occur to accommodate the 8-foot-wide cycle track and a 15-foot sidewalk area. If SHA agrees to permit the construction of cycle tracks, the clear width can be reduced to 18 feet.
- 70. Embed the Purple Line tracks in the pavement on University Boulevard so that the Purple Line transitway can be shared with a future bus rapid transit service. If the decision is made not to embed the tracks for the whole length of University Boulevard, then they should be embedded at all intersections for vehicular, pedestrian, and bicycle access.
- 71. Provide an analysis of pedestrian circulation between the existing New Hampshire Estates, Rolling Terrace and Takoma Academy schools and the surrounding community to ensure that safe, adequate and efficient pedestrian connections are provided in each direction at the intersection of Carroll Avenue and University Boulevard.
- 72. The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and Carroll Avenue should be designed to be more perpendicular to University Boulevard. This will reduce the need for the wide lanes, slow down turning traffic, and make it easier for pedestrians to cross. (SHA)

Takoma Langley Transit Center Station Area

73. Embed the Purple Line tracks at the intersection of University Boulevard and Anne Street.
74. On the northeast and southwest corners of the intersection, the proposed landscape panels behind the sidewalk should instead be moved to be adjacent to the curb so that pedestrians are better guided toward the handicap ramps and to break up the expanse of pavement at this large intersection. (SHA)
75. At the intersection of University Boulevard and New Hampshire Avenue, the radii should be reduced to encourage slower turning speeds, shorten the crossing distance, and to enable the handicap ramps to be in better alignment with the crosswalks. (SHA)
76. At the intersection of University Boulevard and New Hampshire Avenue the median island on the east leg should be extended to create a refuge and the medians on the north and south legs should be bulbed-out to six feet minimum in width to create refuges. (SHA)
77. The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and Carroll Avenue should be designed to be more perpendicular to University Boulevard. This will reduce the need for the wide lanes, slow down turning traffic, and make it easier for pedestrians to cross. (SHA)
78. Embed the Purple Line tracks at the intersection of University Boulevard and Edwards Place.

PROJECT DESCRIPTION

The Purple Line is a proposed 16-mile Light Rail Transit (LRT) line connecting Bethesda to New Carrollton. There are ten stations in Montgomery County, including Bethesda, Connecticut Avenue, Lyttonsville, Woodside, Silver Spring Transit Center, Silver Spring Library, Dale Drive, Manchester Place, Long Branch, and Piney Branch Road. An eleventh station at Takoma/Langley Crossroads is just outside of Montgomery County, but will be used by Montgomery County residents. The light rail line operates partially in exclusive right-of-way (the Georgetown Branch and CSX corridor), partially in the dedicated lanes in the roadway (Arliiss Street, Piney Branch Road, and University Boulevard), and partially in shared lanes (Bonifant Street, Wayne Avenue)². MTA forecasts that there will be 74,160 daily boardings of the Purple Line in 2040³. Access to the stations will largely be by walking, bicycling, and transit. No new parking facilities will be constructed for the project, and many of the stations will have no public parking facilities other than on-street parking.

The Purple Line will be jointly funded by the federal government and State of Maryland, with some financing of the capital cost provided by the private sector. It will be designed, built, operated, and maintained by a concessionaire as part of a Public-Private Partnership.

The purpose and need of the Purple Line project is to:

- Provide faster, more direct and more reliable east-west transit service in the Purple Line corridor, connecting the major activity centers at Bethesda, Silver Spring, Takoma Langley Park, College Park, and New Carrollton

² Exclusive lanes are locations where the Purple Line operates in its own right-of-way; Dedicated lanes are locations where the Purple Line operates in its own lanes adjacent to traffic; Shared lanes are locations where the Purple Line operates in lanes shared with traffic.

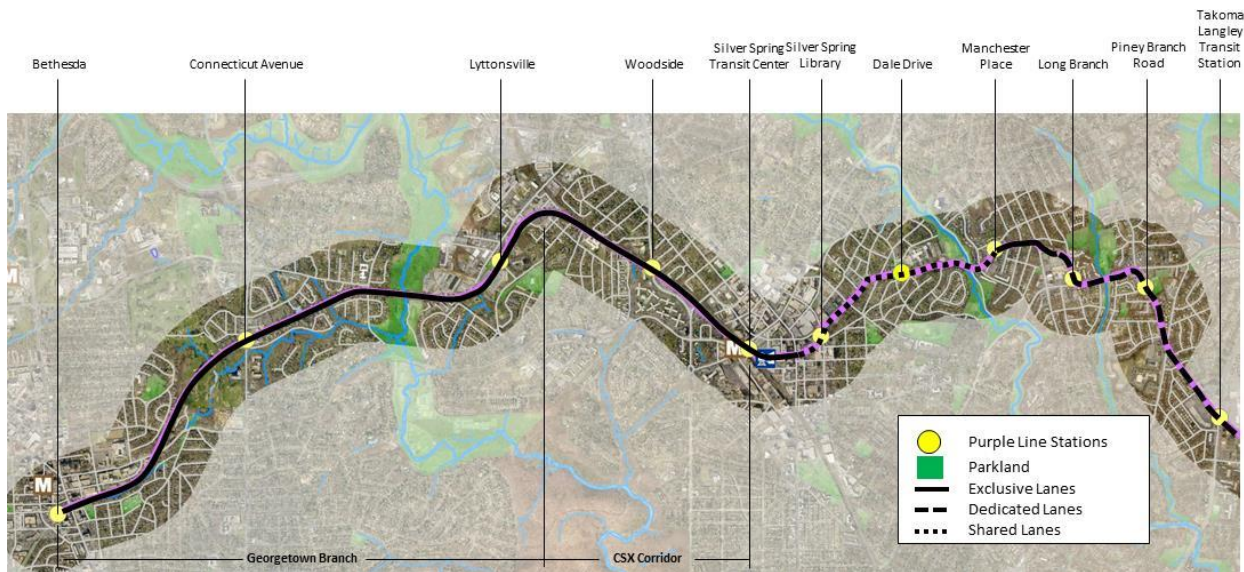
³ This includes special event / student boardings for the University of Maryland campus.

- Provide better connections to Metrorail services located in the corridor
- Improve connectivity to the communities located between the Metrorail lines

The subject of this mandatory referral is the portion of the Purple Line corridor that is located in Montgomery County.

The Purple Line project is substantially consistent with approved and adopted master plans.

Figure 1-1: Purple Line Corridor and Stations in Montgomery County



Source: Montgomery Planning Department

PUBLIC PRIVATE PARTNERSHIP

The use of Public Private Partnerships (P3s) for delivering transportation projects is becoming more commonplace in the United States, but it is still a relatively new approach for major public transportation projects. The Purple Line is only the second major transit project in the United States to use the P3 approach.

Perhaps the greatest benefit but also the greatest challenge for staff of a P3 process is that bidders have the opportunity to propose refinements to the project. The benefit is that proposals will be evaluated based upon a set of criteria, creating an incentive for bidders to propose innovative designs and to reduce costs. The challenge is that only items that are specifically required by the RFP are binding on the bidders – all other elements of the project can be modified. As with any new project delivery approach there are challenges to be worked out. We are still learning what those challenges will be with the Purple Line. One issue that has emerged in the staff's review of the Purple Line is that due to the competitive procurement process, MTA is unable to publicly discuss what aspects of the project are binding in the RFP. The binding elements will not be made public until a preferred concessionaire is selected in late 2014.

- ➡ *In future P3 projects endeavor to provide greater assurance to the public and municipalities about what aspects of the project are binding and what aspects of the project the bidding concessionaires have the opportunity to change, before the final concessionaire is selected. If the final design of the project changes in any substantial way from what has been presented to the*

Board for review, the requirement in State law for Mandatory Referral of the project will not have been met and MTA will need to resubmit the project for Mandatory Referral.

- ➡ *Provide regular briefings to the Planning Board on the Purple Line project over the course of final design and construction, much as the state did for the Intercounty Connector project.*

CORRIDORWIDE

Communities along the Purple Line corridor continue to voice concerns about location-specific aspects of the project. One example is the design of a highly visible power substation located on the north side of Wayne Avenue between Cloverfield Road and Greenbrier Drive, about which MTA continues to work with the community. Similar issues remain in other communities and will likely arise in other areas during project construction. Therefore, MTA should:

- *Commit to regular meeting with neighborhood working groups throughout final design and construction of the project to: 1) provide communities with regular updates, 2) hear community concerns with construction, 3) to receive feedback on final design treatments.*
- *Consider approved design guidelines established for station areas and community feedback for the design of retaining walls, traction power substations, catenary poles and wires, and other structures that will have a visual presence.*

Pedestrian and Bicycle Accommodation

In April 1995, the Maryland State Legislature enacted a number of provisions intended to promote pedestrian and bicyclist access and safety that were collectively known as the Access 2000 legislation. Section 8-611(b)(2) of that legislation reads as follows:

By July 1, 1997, the Administration, in cooperation with local governments, shall inventory state and local facilities near rail stops, light rail stops, and subway stations to determine what improvements are needed to accommodate in a safe and effective manner pedestrians and bicyclists within a reasonable distance for walking and biking.

MTA assumed the responsibility for fulfilling the mandates of this portion of the legislation and, in association with SHA, completed the inventory of pedestrian and bicyclist facilities, as well as recommendations for improvements. MTA used the criteria of 0.6 miles for pedestrian travel and 2.0 miles for bicyclist travel for the purpose of determining where improvements were needed based on historic data of pedestrian and bicyclist behavior. These improvements were not made, however, because the funding was eliminated.

While this program to retrofit station areas for better access and safety was halted in 1997, the criteria used to determine the area of need – 0.6 miles for pedestrian travel and 2.0 miles for bicyclist travel – are still valid and should be used to determine what is needed in conjunction with the Purple Line construction. MTA has suggested that an objective analysis of pedestrian access is needed to determine whether station access is adequate, and have indicated that one such metric is multimodal level of service (including level of service evaluations for pedestrian, bicycles, transit, and automobiles). We agree that an objective measure would be useful, but to our knowledge only automobile level of service has been evaluated. We therefore request that MTA

- *Conduct a multimodal level of service analysis within the immediate station areas. If deficiencies are identified, MTA, in coordination with MDOT, SHA, and MCDOT, should identify potential solutions and incorporate them into the Purple Line RFP.*

In the absence of an evaluation of pedestrian station access needs by MTA, Planning Department staff conducted a high-level evaluation of pedestrian access in the immediate vicinity of each of the 11 stations serving Montgomery County, based on sidewalks widths, separation between fast-moving traffic and sidewalks, frequency of traffic signal spacing and marked crossings, and whether there are

pedestrian refuge islands on roads with six lanes or more. Each station was determined to have “good”, “fair,” or “poor” pedestrian access after the completion of the Purple Line. (Note that the Takoma Langley Transit Center station, which is actually located in Prince George’s County in the northwest quadrant of the University Boulevard/New Hampshire Avenue intersection, is included in this evaluation since it provides service to Montgomery residents and visitors in the southeast and southwest quadrants of the intersection.)

Our review found that only four stations will have “good” pedestrian and bicycle access in their immediate vicinity after the Purple Line is complete. Four stations were rated as “fair” and three stations were rated as “poor”.

- Good: Bethesda, Silver Spring Transit Center, Silver Spring Library, and Takoma Langley Transit Center
- Fair: Connecticut Avenue, Dale Drive, Manchester Place, Long Branch
- Poor: Lyttonsville, Woodside, and Piney Branch Road

There are always tradeoffs when designing any project, especially in built-out urban environments, but while we believe that all stations should have “good” station access, at a minimum, all stations should have “fair” access. MTA’s goal is have a high quality light rail system, but ridership may suffer if the people who would be walking or bicycling to and from the stations every day have not been adequately accommodated. We have therefore singled out the three station areas assessed as having “poor” pedestrian and bicycle access for particular focus.

The majority of the stations would have only “fair” to “poor” accommodation in their immediate area and over one-quarter of the stations would have “poor” access. While we could only evaluate the immediate area of the stations in this review, a more extensive evaluation using the 0.6-mile radius of the station per the Access 2000 criteria would presumably result in a need for more improvements.

In general, based upon our review, the objectives of this project in order of priority appear to have been to:

1. Construct a high-functioning light rail project
2. Meet minimum standards for roads and meet minimum ADA requirements for sidewalks
3. Minimize impacts to private property, parks, historic resources, and environmental resources
4. Accommodate traffic flow and on-street parking
5. Provide adequate station access for pedestrians and bicyclists

Part of the reason for the low priority for pedestrian and bicyclist access is institutional. MCDOT and MDOT have historically been focused on moving vehicles. While bicyclists do have advocacy groups that have petitioned for and received greater provision of on-road bike accommodation, there are not similar advocacy groups for pedestrians.

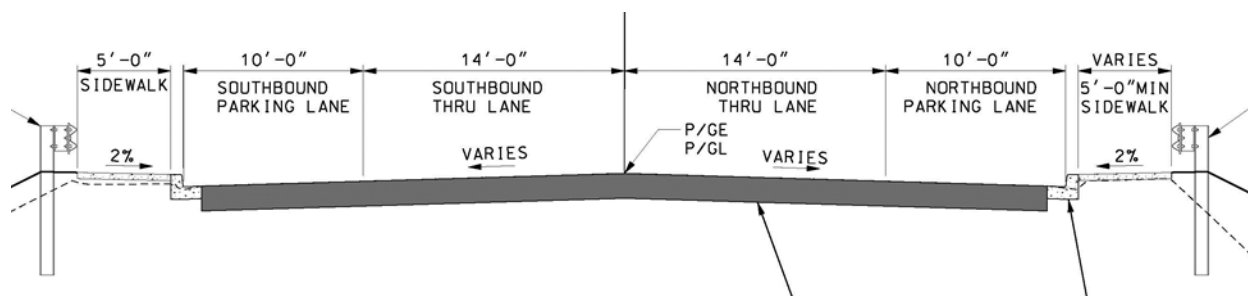
Another part of the reason for this is that the FEIS requires MTA to minimize impacts associated with the project. In an effort to minimize property acquisitions, MTA has in many locations (such as Piney Branch Road and Wayne Avenue), provided the bare minimum size sidewalk width and little or no offset from the road. In addition, MTA’s focus has been on project delivery of the rail and station facilities and less about how well their future passengers access the station.

A case in point is Lyttonsville Station. Many residents living in Lyttonsville will walk to the station along Lyttonsville Place and then descend a ramp into the station. The current plans for Lyttonsville Place

propose 5-foot-wide sidewalks adjacent to the curb on both sides of the road. However, there is approximately 48 feet of space between the curbs, including two 14-foot-wide travel lanes, and two 10-foot-wide outside lanes that are shown below as parking, but have also been referred to as “activity lanes” and would serve as a bus pull-off area and potentially space for on-street parking. MCDOT would like to locate a bus pull-off area just to the south of the bridge, presumably so that buses do not block traffic, even though they have not conducted a study to determine how much the existing intermittent bus service to this area would be increased. Therefore, there is inadequate space for wider sidewalks or bicycle lanes because the space would be set aside for use by buses and parked cars. This issue is discussed in greater detail on page 1-46.

There is a balance to be had for accommodating all of the competing needs around Purple Line station, but pedestrian and bicycle access does not appear to be given much weight, even though that will be the primary mode of access at most stations.

Figure 1-2: Lyttonsville Place Typical Section



The four transportation agencies need to place a greater priority on station access. Therefore, MCDOT, SHA, and MTA should:

- *Commit to providing quality pedestrian and bicycle improvements between stations and the communities in their immediate vicinities. (MCDOT, SHA, MTA)*
- *In addition to sending comments to MCDOT, SHA, and MTA as the agencies directly responsible for incorporating specific changes or additions to the projects covered by these mandatory referrals, MDOT should take the lead to ensure the highest level of coordination among the agencies. (MDOT)*

Pedestrians

Overall, the pedestrian accommodations along the Purple Line corridor are inadequate. While continuous pedestrian accommodation is proposed by the project along both sides of all roadways throughout the project area, the bare minimum pedestrian accommodations are proposed in many locations. As designed, the project appears to meet the minimum Americans with Disabilities Act (ADA) standards, but the pedestrian facilities are far less than what should be provided to serve a major new transit facility. While the recommendations of the American Association of State Transportation Officials (AASHTO) are regularly used to justify greater accommodation for vehicles, their recommendations for adequate sidewalks have not been followed in the design of this project, nor have the recommendations of ADA Best Practices that would facilitate easy access to transit. Both sets of recommendations should be used in a redesign of the proposed pedestrian facilities to achieve good accommodation for both disabled and able-bodied transit patrons and other pedestrians.

In addition, the sidewalks or paths are often directly adjacent to the curb. This location places pedestrians in close proximity to large volumes of fast-moving vehicles as well as subjects them to the annoyance of grit and stormwater runoff being splashed up from the roadway. Also, the seasonal safety hazard of sidewalks adjacent to the curb being blocked by plowed snow is a concern and must be avoided whenever possible.

- ➞ *Conduct a thorough review of this project with the goal of meeting both AASHTO recommendations for pedestrian facilities as well as ADA Best Practices at a minimum. In commercial areas, a higher level of accommodation is required to ensure that transit patrons have safe and adequate access, that potential patrons are encouraged to use the Purple Line and justify the State's and County's significant investment in this facility, and to support and promote transit-oriented development. Identify near term and long term improvements to enhance station access. (MTA, MCDOT, SHA, MDOT)*

In addition, a bus service planning study has not been completed to determine how RideOn bus service and other shuttle services will be adjusted (bus stop locations, routes, frequency, and span of service) when the Purple Line is completed. This is needed to inform decisions about station areas in final design, such as the location of crosswalks and where bus stops are needed. Therefore, MCDOT should:

- ➞ *Conduct a bus service planning study to determine how routes, frequencies, span of service and the location of bus stops will be adjusted when the Purple Line opens for service. MCDOT should also coordinate service changes for Metrobus routes with WMATA. (MCDOT)*

Furthermore, despite this being a transit project, existing bus stops have not been identified on the plans and therefore it is unclear whether analysis has been done to ensure that crosswalks are marked at safe locations in close proximity to each bus stop.

Legal crosswalks exist at all intersections of two public roads per State law, and all crosswalks must be made fully ADA-compatible per federal law.

- ➞ *All intersections must be made fully ADA-compatible. At intersections where a safe crossing cannot be provided, signs prohibiting the crossing to all pedestrians should be installed, but MCDOT and SHA must ensure that there are adequate crossing opportunities, particularly in the vicinity of all bus stops. (MCDOT, SHA)*

Bicycles

Bicycle accommodation along the Purple Line corridor is “good”. Over 90% of the Purple Line corridor will have adjacent bicycle accommodation. This includes the Capital Crescent Trail and the Silver Spring Green Trail between Bethesda and Sligo Creek Parkway, as well as bicycle lanes on Piney Branch Road and University Boulevard, which will be added as part of the Purple Line project. The Metropolitan Branch Trail will also be completed in the same timeframe, furthering enhancing access to the Silver Spring Transit Center station.

Of the 11 stations serving Montgomery County, 10 stations will have bicycle access: 5 stations will have bicycle access via the Capital Crescent Trail (Bethesda, Connecticut Avenue, Lyttonsville, Woodside, Silver Spring Transit Center), three stations will have bicycle access via the Silver Spring Green Trail (Silver Spring Transit Center, Silver Spring Library, and Dale Drive), and three stations will have on-road bike lanes (Long Branch, Piney Branch, Takoma Langley Transit Center). The only station without bicycle accommodations is the Manchester Station.

Montgomery County and MTA should further support pedestrian and bicycle access to transit in two ways:

- *Utilize a “Bicycle Pedestrian Priority Area Projects” annual program to enhance pedestrian and bicycle station access in locations where redevelopment is unlikely in the next 5 to 10 years. This program was recommended by the County Council’s Transportation, Infrastructure, Energy, and Environment (T&E) Committee on February 24, 2014 and will be taken up by the full Council in the coming weeks. (MCDOT)*
- *Establish a mechanism during the final design and construction phases of the Purple Line project to enable Montgomery County to supplement Purple Line funding to enhance pedestrian and bicycle station access in locations where additional infrastructure is needed. This will ensure efficient use of public funds and minimize post-Purple Line disruption.*

Recognizing that bicycling is a highly efficient mode for accessing transit stations, many transit agencies are establishing bicycle mode share goals, because bicycling offers the same flexibility as walking for people traveling beyond a 0.6 mile walking distance to transit. In 2011, WMATA established bicycle mode share goals of 2.1 percent by 2020 and 3.5 percent by 2030, during the morning peak period. While Montgomery County’s bikeshare service will provide bicycle access for passengers living within or on the outskirts of urban areas, travel by private bicycle will remain an important mode of access especially in lower-density residential areas where bikeshare is inefficient. MTA’s commitment to allowing bicycles on the light rail vehicles at all times recognizes the growing importance of bicycle access. In fact, the Purple Line / Red Line Urban Design Guidelines Draft (dated 9/12/2012) recommends installing a quantity of bicycle racks at every station that provides for a number of cyclists equal to 1% of anticipated daily transit ridership, but no less than eight bicycles.

- *Estimate the number of bicycle parking spaces needed at each station based on the Purple Line / Red Line Urban Design Guidelines and determine how many additional spaces are needed beyond what the Purple Line project can accommodate.*

This will help Montgomery County identify additional locations for bicycle parking spaces during the development review and facility planning.

Environmental Analysis

Environmental staff reviewed the Purple Line Mandatory Referral (MR) submission for tree and forest mitigation and replacement, stormwater management, and habitat mitigation. In certain instances comments that were originally generated from the findings within the Final Environmental Impact Statement (FEIS) did not appear to be addressed in the mandatory referral. All recommendations have been approved of by the Department of Parks and Montgomery County Department of Environmental Protection.

Forest Mitigation

The total loss of Forest Interior Dwelling (FID) habitat along Rock Creek is 23.4 acres. The FID habitat cannot be replaced; however, MTA stated compliance with the Maryland Department of Natural Resources Forest Conservation requirements to replace specimen tree and forest loss. The FEIS (Chapter 4, page 119) states that “MTA has preliminarily identified reforestation sites and forest mitigation banks with available credits that could be used to satisfy the requirements.” M-NCPPC staff would like to review these sites.

Department of Parks Comments: State policy has been to require that a forest conservation easement be placed on any forest (whether existing or planted) that is designated for mitigation under the Forest Conservation Law. The Department of Parks does not permit easements on parkland because they could potentially limit future use. In the Term Sheet (for the forthcoming Memorandum of Agreement to be entered into between M-NCPPC and MTA), Montgomery County Parks (Parks) has stated, “No conservation easements shall be placed on any current M-NCPPC parklands. No conservation easements shall be placed on any replacement parklands to be conveyed to M-NCPPC, unless (i) such conservation easements were already in place prior to any MTA acquisition; and (ii) M-NCPPC agrees to accept such encumbered replacement parkland”. Therefore, MTA must:

- *Work with Montgomery County Planning staff to identify forest mitigation opportunities outside of parkland prior to approval of the Forest Conservation Plan.*

Forest Clearing

Interior forest clearing is proposed along the limits of disturbance (LOD) adjacent to Rock Creek Stream Valley Park. To the west and east of Rock Creek the LOD line bumps out. This will require the removal of additional interior forest, specimen trees and steep slopes. Therefore, MTA should further:

- *Minimize the clearing of the forest along with its associated steep slopes and erodible soils.*

Specimen, Individual, & Tree Canopy Cover

According to the FEIS there will be approximately 193 specimen trees (over 30” diameter at breast height ‘DBH’) removed and forest cleared within the Purple Line right-of-way in Montgomery County. Since this is a State transportation project, compliance with Section 22A-12(b)(3) of the Montgomery County Forest Conservation law is not required. However, compliance with the Maryland Forest Conservation Law and Roadside Tree Law as administered by the Maryland Department of Natural Resources (DNR) is obligatory. M-NCPPC has yet to review a preliminary Maryland Forest Conservation Plan that would determine the final forest and tree clearing based on the 30-percent construction drawings. Even though compliance with County forest regulations is not required, staff requests MTA:

- *Provide the draft Maryland Forest Conservation Plan when available for staff comment and information about the quantities proposed for forest clearing, specimen tree removal, and mitigation sites.*

Landscaping

The legends included on the landscape plans (Volume 1 starting on plan sheet #570) do not include a clear and consistent representation of which trees are proposed for removal, and which trees will be preserved.

Therefore, MTA must:

- *Modify the landscape plans to include the circle with an “X” in the legend to differentiate the trees that will be removed from the trees that are proposed for planting.*
- *Provide native canopy cover landscape trees as a replacement for canopy tree loss due to the construction of the Purple Line. Canopy cover trees must reach a height of 50 feet or greater at maturity.*

There are a number of questions and concerns staff has regarding the selected tree and shrubs proposed as landscape planting along the Purple Line. There is significant inconsistency throughout the mandatory referral submission regarding the spacing of the proposed trees, even within the same street. Staff has reviewed the grading and infrastructure and believes adjustments can be made to the landscape plan for more consistency, uniformity, shading, habitat, and symmetry.

Of particular concern is the lack of tree plantings along many portions of University Boulevard. The community in this area is extremely dependent on mass transit and will likely be frequent users of the Purple Line. As presently shown on the landscape plans, there will be little to no shade cover in the vicinities identified below yet there appears to be more room in the right-of-way than many other areas of the Purple Line where trees will be planted. It is important that the public have a pleasant experience, shaded sidewalks and stations similar to other areas. Therefore MTA must:

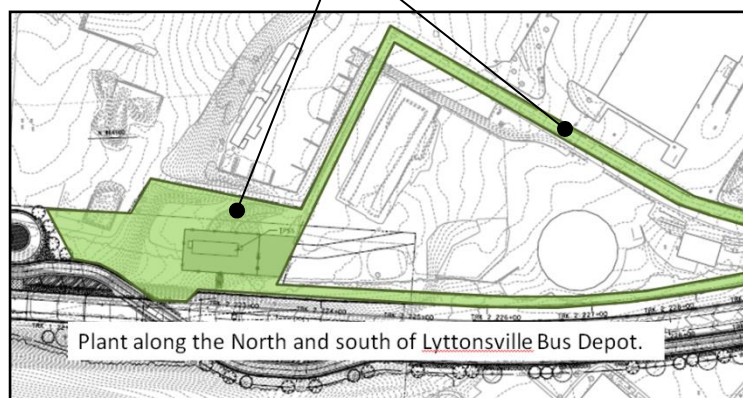
- *Provide uniform tree planting spacing (35'-40' on center) and additional native canopy tree cover in the following areas within the Limits of Disturbance, where feasible:*

South Side of Purple Line (PL) within the LOD at stations:

- 111 – 145
- 183-194
- 235-236 (outfall)
- 238-239
- 242-243
- 258-265
- 296-297 (plant along newly graded bank on the west side of 16th Street)
- 358-395
- 401-408
- 428-432.5
- 435.5-440.5
- 445-446
- 461-502 (University Boulevard)

North Side of Purple Line (PL) within the LOD at stations:

- 135-147
- 183-194
- 196-206
- 219-237 Behind the Montgomery County bus depot
- 258-264
- 265-267
- 280-292
- 304-309.5
- 321.5-324
- 330-332
- 358-395
- 401-408
- 435.5-440.5
- 445-446



- 461-502 (University Boulevard)

Figure 1-3: Recommended Location of Native Tree Plantings behind the Montgomery County Bus Depot

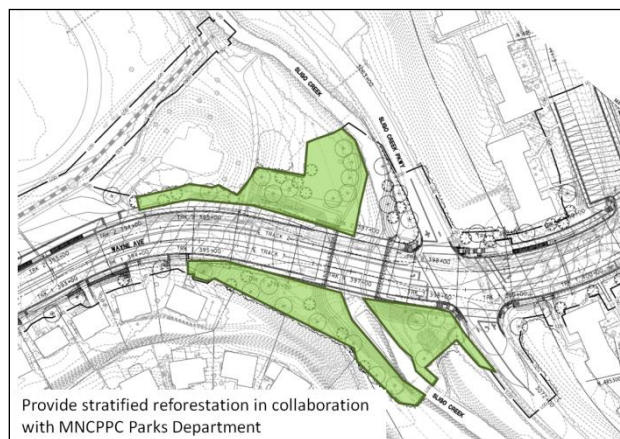
- ➡ *Work with property owners to plant additional native trees, flowering trees, or shrubs on their private property as buffers to the Purple Line in the following locations:*
 - North side of the Purple Line from station 123.5-127
 - North and south side of the Purple Line at stations 349-352
- ➡ *Staff requests MTA collaborate with Columbia Country Club for tree replacement locations and species preferences as there are numerous trees being removed and planting proposed which may further affect the view and experience of the Club members.*

Stratified reforestation plantings must also occur on the North and South side of Coquelin Run between stations 193-196.

Department of Parks Comments:

- ➡ *Collaborate with M-NCPPC Parks Department to provide acceptable plantings for stratified reforestation areas (non-mitigation sites) on parkland to include shrubs, flowering and canopy trees in the following Park natural areas: Rock Creek Stream Valley Park, Sligo Creek Stream Valley Park, Long Branch Stream Valley Park*

Figure 1-4: Recommended Location of Stratified Reforestation in Sligo Creek (green shaded area)



Note that the landscape designs for impacted portions of active use Parks (i.e. Elm Street, Silver Spring Transit Easement Area, Sligo Cabin, Long Branch, and New Hampshire Estates) shall meet or exceed existing conditions. The specific LOD adjustments, tree protection measures, and landscaping/plantings on Parkland will need be reviewed and agreed to during the design process.

Noise

According to the FEIS, moderate noise impacts ranging from 50-80 dBA are projected during operations at seven single family residences and four apartment buildings. The noise exposure projected at these sites is due primarily to horn soundings required as the LRT approaches stations and grade crossings. Additional noise is anticipated from wheel squeals along approximately 20 locations with tight rail radii.

Noise impacts are also anticipated from the transformers. These concerns were not addressed in the mandatory referral submission. Therefore, MTA must:

- *Demonstrate how the noise levels will either be abated for, or be in compliance with federal noise requirements for the seven single family residences and four apartment buildings identified as M-23, M26, M-27A & M-28 in the FEIS (Noise Technical Report, page 20).*

However, MTA recently indicated at a community meeting that the light rail vehicles will not need to sound their horns as they enter the stations.

Stormwater Management (SWM)

The Concept Stormwater Management plan includes Environmental Site Design (ESD) techniques (e.g. bioswales, green roofs, microbioretention, pervious pavement, planter boxes, rain gardens, etc.). When these techniques are not practical, more traditional stormwater management practices such as dry detention ponds, sandfilters, underground detention, and storm inlet filters are proposed. The plan indicates that where there are utility conflicts, infrastructure conflicts, or other site constraints, such that stormwater treatment is not practical, MTA intends to provide offsite stormwater management well beyond the projects LOD. The mandatory referral states that collaboration with local agencies will be needed. Allowing on-site impervious areas to discharge untreated into the already impaired down-County watersheds, would diminish other retrofit/restoration efforts by Parks and DEP; therefore, MTA should:

- *Work with M-NCPPC and DEP staff to provide stormwater treatment within the alignment.*

Much of the Purple Line construction occurs within existing developed watersheds, so “redevelopment” criteria is being proposed for sizing many SWM treatments. While this approach does meet the MDE minimum design criteria, staff notes that the vast majority of land impacted by this project is under the jurisdiction of public agencies (e.g. MTA, Parks, SHA, and the County) that hold MDE Municipal Separated Storm Sewer System (MS4) permits. The expectations of MS4 permit holders is to provide more than minimal treatment. While we understand that providing full ESD volumes within this highly urbanized watershed would be very difficult, we believe this project presents a unique opportunity to provide some treatment along some of the County’s most urbanized areas. University Boulevard, Piney Branch Road, and Wayne Avenue are highly impervious, curbed, and untreated roadways that cause a significant amount of damage to downstream stream valley parks, and we feel it is appropriate for MTA to require the builders to achieve a higher overall level of SWM treatment prior to discharging into these important stream systems.

The Concept Stormwater Management Report (Revision 2, November 2013) states that the construction project will result in 27.34 acres of offsite water quality mitigation. “Future negotiations with the County Agencies will decide where treatment will be available.” The Department of Environmental Protection (DEP) has shared some identified down-county stormwater management retrofit opportunities with MTA.

- *While MTA is only required to meet minimum MDE standards for stormwater management (‘SWM’) on this project, there appear to be significant opportunities to retrofit existing untreated impervious areas that drain through the project area that would help mitigate some of the existing water quality issues along this urban corridor. M-NCPPC requests that MTA view this as an opportunity to provide additional SWM treatment to these areas and that they continue to*

work with DEP and the Department of Parks to determine stormwater management opportunities within the impacted watershed. Additionally, it is imperative that the design team identify ways to maximize on-site treatment, ensure imperious runoff is actually intercepted, and balance the treatment facility capacity with the impervious areas draining to them.

Parks Comments: Parks is concerned that the Concept Stormwater Management plan submitted for the Purple Line will result in degradation of the Stream Valley Parks receiving discharge from the project area. There are approximately 28 acres that are within the project's Limits of Disturbance (LOD) that are being studied by MTA for SWM treatment. Of that acreage, 17.5 acres (or 63%) will be impervious, but according to the Concept SWM plan, only approximately 6.3 acres (or 36%) of those impervious areas will be intercepted by the proposed SWM facilities. This would mean that much of the trash, oil, grit, brake dust, etc. associated with urban runoff would be discharged onto Parkland. It appears that in some areas, treatment opportunities are being completely missed, while in other areas they are providing more capacity than can be utilized. For instance, in one of the largest drainage areas (POI 56), there are 6.2 acres of impervious drainage area, but only 1.6 acres (26%) will be intercepted by a treatment structure, with approximately 4.6 acres (74%) discharging directly into Sligo Creek without treatment. In contrast, the Green Track ESD facility (POI 21) provides over 17,000 cubic feet of ESD volume for only 0.5 acres of impervious – which would be over 8 times the normal ESD volume for this area. M-NCPPC requests that MTA:

- ➡ *Based on the Department of Parks initial review of the Concept SWM Plan for the Purple Line, we believe more work needs to be done to intercept and adequately treat runoff from impervious areas within the LOD that discharge directly onto parkland. Where site constraints restrict on-site stormwater management, the Department of Parks would like to work with MTA to identify potential sites for stormwater management on parkland to treat this runoff.*

Wetlands

Within the right-of-way there will be impacts to wetlands, open water, springs, seeps, intermittent channels, and streams in association with the construction of the Purple Line (WUS gn-1, WUS gb2, WUS gb3, WUS gb-4, WUS 068, WUS 066, WUS gb-9, WUS 066, WUS gb-9, and WUS057). Strategies for mitigating for the impacts to these resources are limited in the down-county area. In Montgomery County, there were two wetland mitigation sites proposed by MTA in the Northern Rock Creek watershed near Deerwood Maryland (Crabbs Branch) and Aspen Hill (Parklawn Local Park).

Department of Parks Comments: Parks believes these sites are too far removed from the Purple Line alignment to mitigate for the impact to wetlands. Parks and DEP have met with MTA and identified other more appropriate down county sites that MTA is currently analyzing. Therefore, M-NCPPC requests that MTA:

- ➡ *Continue to work with the Department of Parks and DEP to identify specific areas for compensatory wetland mitigation down-county and as close to the affected wetlands as possible.*

Stream Restoration

MTA identified two sites in the Northern Rock Creek watershed for restoration.

Department of Parks Comments: Both the Department of Parks and DEP believe these sites are too far removed from the Purple Line alignment to mitigate for the impact to streams from the alignment. The

Department of Parks and DEP have met with MTA and identified other more appropriate down county sites. M-NCPPC requests that MTA:

- *Continue to work with the Parks Department and DEP to identify specific areas for stream mitigation down-county and as close to the affected stream reach as possible.*

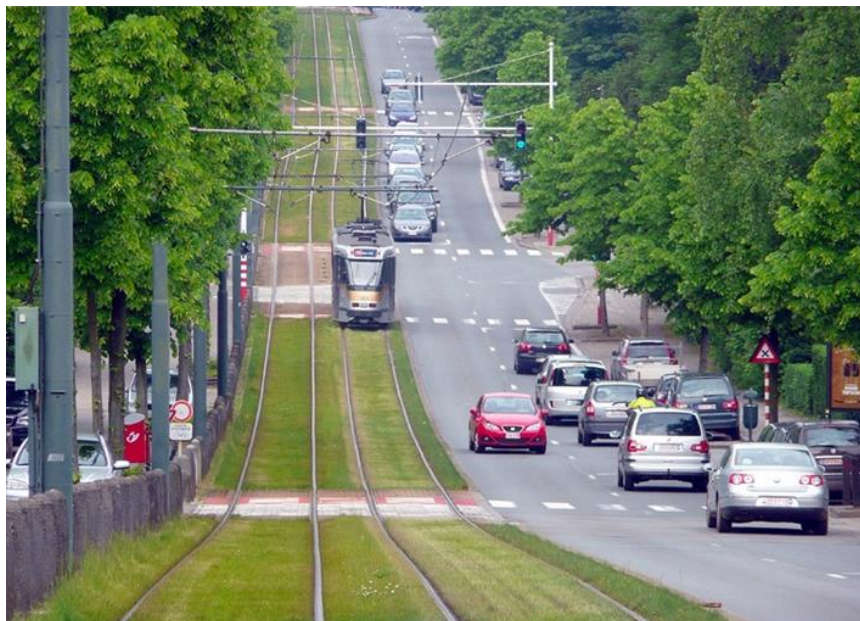
Energy

- *Provide occupancy sensors on all platforms to dim lighting to 50% when platform is vacant. This will reduce energy costs and lower glare to drivers and the neighborhood. (MTA)*

Green Tracks

- *Plant grass between and along the tracks where the line is parallel to the Capital Crescent Trail and where the tracks are in dedicated lanes and not on a bridge or in a tunnel.*

Figure 1-5: Green Tracks



Station Design

MTA has an opportunity to provide a unique identity for each station, both architecturally and historically, that will emphasize the unique characteristics of their respective community and are developing an Arts in Transit program.

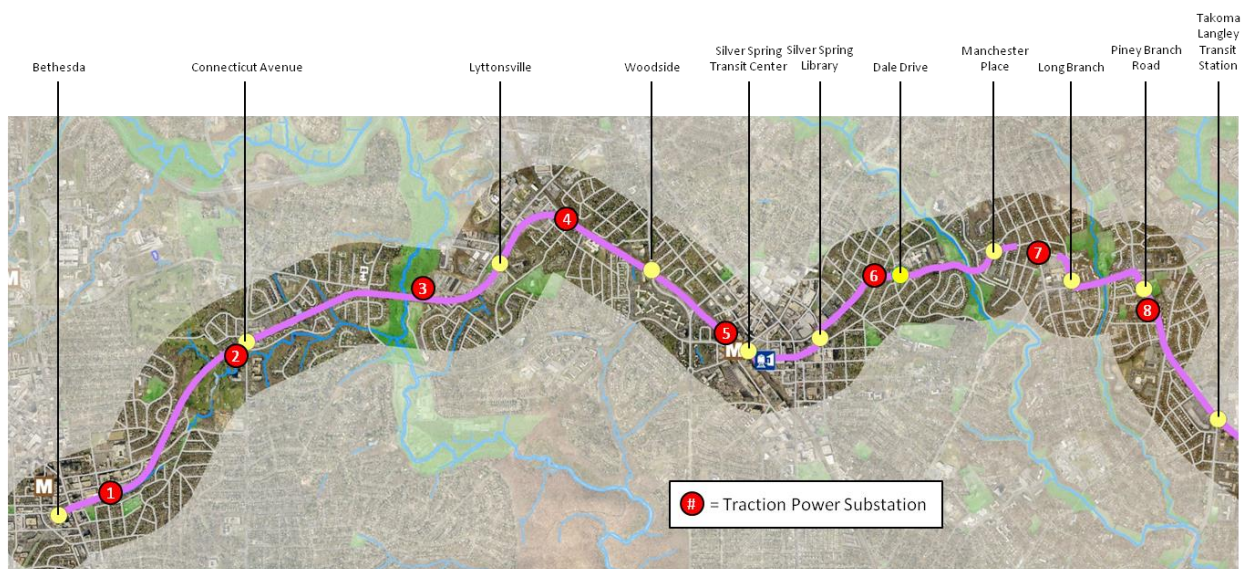
- *A consistent approach to the architectural style of each station can be maintained for all of the Montgomery County stations, however, MTA could incorporate art as part of an Art in Transit program, interpretive signage and wayfinding, lighting and landscaping, and pavers and building materials that represent the historical context unique to that station.*

Traction Power Substations

Traction Power Substations (TPSS) convert electric power from the local energy provider to an appropriate voltage for use by the Purple Line. There are 8 substations in Montgomery County spaced about one mile apart (see Figure 1-6). The substations are generally 52 feet by 14 feet, except in Bethesda, where the end-of-the-line substation will be 55 feet by 21 feet. Some substations are located in highly visible locations. MTA is working with the Wayne Avenue community to design the exterior of the substation as a single-family house. This substation is proposed to be designed to fit in contextually within the surrounding community. Therefore, MTA should:

- ➡ *Design each substation to fit in with the context of the immediately surrounding neighborhood and/or should make every effort to minimize both the visual and noise impacts of the substations. Each substation should be evaluated for undergrounding where feasible, especially in high-visibility areas. Where appropriate, design of structures can mimic local vernacular to minimize visual impact.*

Figure 1-6: Locations of Traction Power Substations



Source: Montgomery Planning Department

Figure 1-7: Example of Public Utility Building Designed to Fit the Local Context



Overhead Catenary System

MTA is planning to use an overhead catenary system (OCS) for propulsion of the light rail vehicles. The OCS will have visual impacts, introducing additional poles and wires about every 100 feet into the Purple Line corridor. An example of a transit system with catenary wires is the H Street streetcar in the District of Columbia, shown in Figure 1-8. It includes segments that have poles on both side of the road (left) and one pole in the median (right).

Figure 1-8: Overhead Catenary System on H Street in the District of Columbia



Poles on Both Sides of the Road

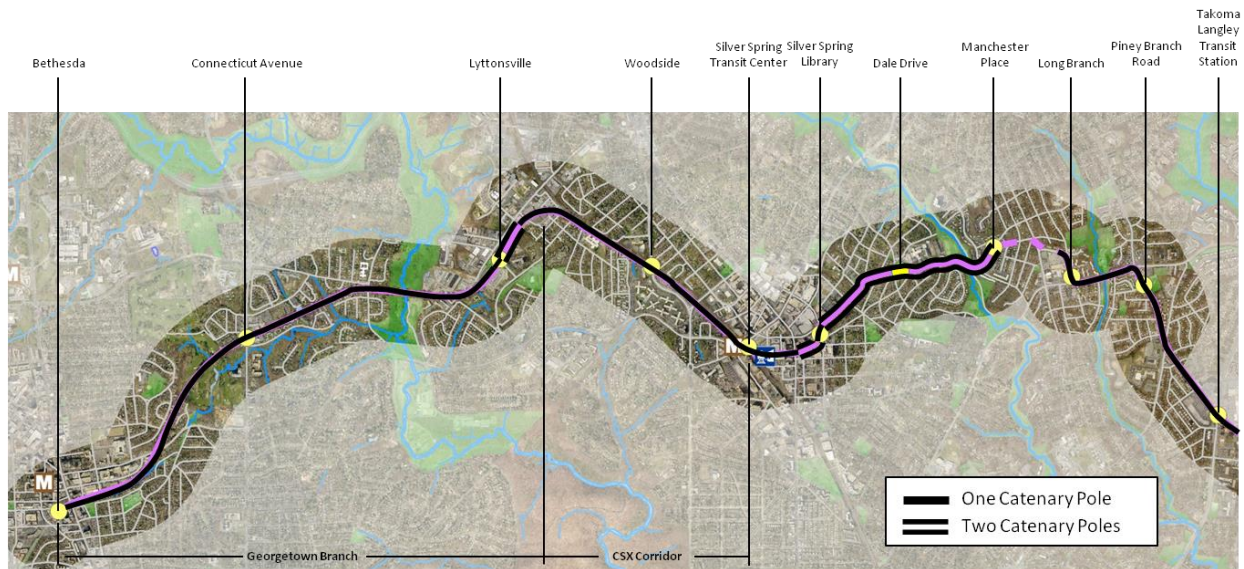


Poles in the Median

The catenary pole configuration will vary based on whether there is a median between the tracks and whether the Purple Line is in an exclusive transitway. For the Purple Line, there will be one pole in between the tracks in the Georgetown Branch and the CSX corridor and one pole in the median of the road on Arliss Street, Piney Branch Road, and University Boulevard. There will be two poles on either side of the tracks between the west end of the Lyttonsville Station platform and Stewart Lane and two poles on both sides of the road along Bonifant Street east of Georgia Avenue and Wayne Avenue (see Figure 1-9).

- *The catenary system used should minimize the visual impact. Other ancillary gear such as constant tension weights and electrical transmission cables should be covered or concealed within the pole structure.*

Figure 1-9: Number of Catenary Poles by Segment



BETHESDA STATION AREA

The Bethesda Purple Line Station will be located at the southwest corner of Wisconsin Avenue and Elm Street, beneath the Apex Building. The station is below Wisconsin Avenue and has a center platform. Access to the station is from Elm Street via two elevators, Woodmont Avenue via a portal, and to the Capital Crescent Trail via a narrow 5 to 7-foot-wide sidewalk that passes beneath the Apex Building, Wisconsin Avenue, and the Air Rights Building, on the north side of the tracks. The Bethesda station – along with the Silver Spring Transit Center station – is expected to have the highest ridership along the Purple Line corridor. MTA forecasts that there will be 14,990 daily boardings at this station in 2040.

Figure 1-10: A View of the Bethesda Station



Source: Maryland Transit Administration

Master Plan Consistency

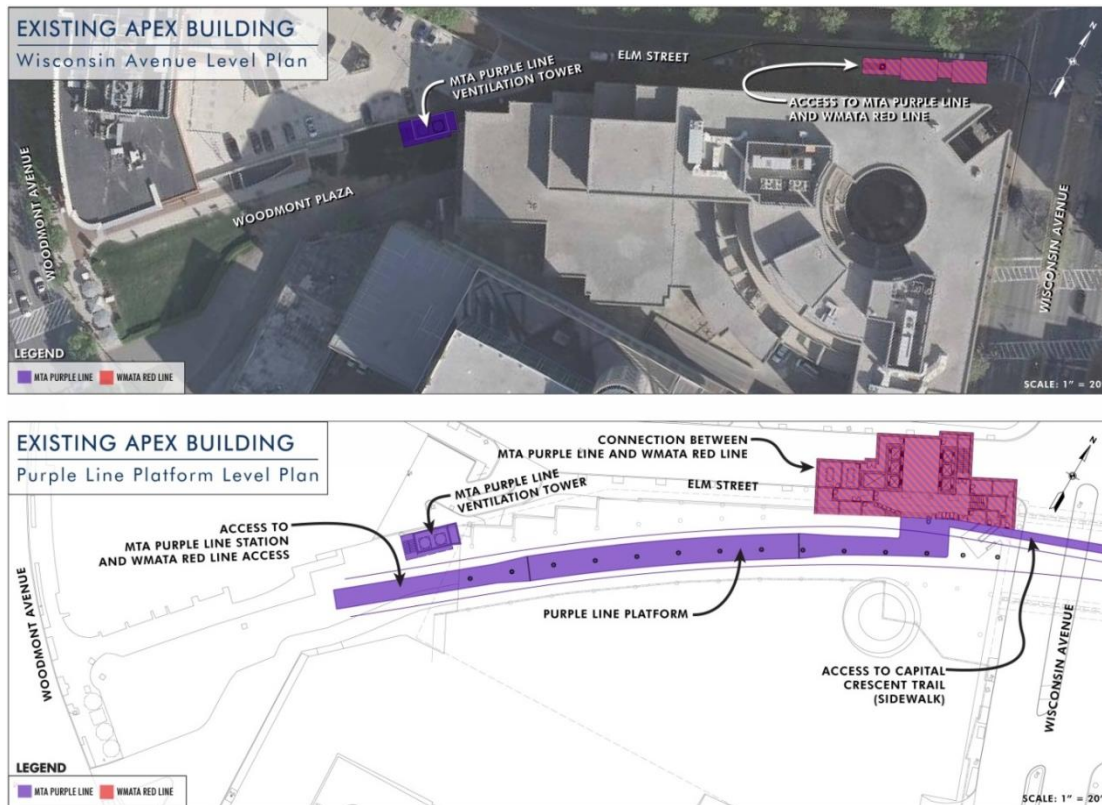
The Bethesda Purple Line Station Minor Master Plan was approved by the Montgomery County Council in February 2014. It recommends both a “default” station and an “alternative” station for the Purple Line depending on whether the Apex Building is demolished before construction of the Purple Line.

The “default” station will be constructed if the Apex Building is demolished after the Purple Line is constructed and is recommended to have the following characteristics:

- station platforms under the Apex Building
- station and tracks on a curved alignment
- stairs for pedestrian connection between Elm Street and the Purple Line platform
- high-speed elevators for a new south entrance to the Bethesda Red Line Metro station that provide a pedestrian and bicycle connection between Elm Street, the Purple Line platform, and the Red Line mezzanine
- a walkway providing a connection to Woodmont Avenue via Woodmont Plaza
- a pedestrian connection in the existing tunnel east to the Capital Crescent Trail via a 5 to 7-foot-wide sidewalk on the north side of the tracks

- over-run tracks extending west from the station platform into Woodmont Plaza for not more than 100 feet from the tunnel's western end
- ventilation equipment to be incorporated into a redeveloped Federal Realty site or in Woodmont Plaza

Figure 1-11: Bethesda “Default” Station Design



Source: Maryland Transit Administration

The “alternative” station will be constructed if the Apex Building is demolished before the Purple Line is constructed and is recommended to have the following characteristics:

- station platforms located under a future building on the Apex site
- station and tracks on a straight alignment
- stairs providing pedestrian and bicycle connections between Wisconsin Avenue and the Purple Line platform
- high-speed elevators for a new south entrance to the Bethesda Red Line Metro station that provide a pedestrian and bicycle connection to Wisconsin Avenue and the Purple Line platform
- a walkway providing a pedestrian and bicycle connection to Woodmont Avenue via Woodmont Plaza
- over-run tracks extending west from the station platform into the Woodmont Plaza for not more than 30 feet from the tunnel's western end
- incorporating ventilation equipment into the new building

Figure 1-12: Bethesda “Alternative” Station Design



Source: Maryland Transit Administration

At this time there is no plan to construct the “alternative” station, so the “default” station is the subject of this mandatory referral. MTA has indicated that it needs to know whether the Apex Building will be demolished by mid April 2014 to be able to construct the “alternative” station.

- ➡ *Should an agreement be made by mid April 2014 to demolish the Apex Building to allow an improved Bethesda station design to be built, MTA must submit the “alternative” station design to the Planning Board as a mandatory referral.*

This “default” station is consistent with the master plan.

Community Concerns

The Town of Chevy Chase formed a Purple Line Mitigation Advisory Group (MAG) to work with MTA to resolve a number of issues related to the Purple Line. MTA, Planning Department staff, and MCDOT staff have met with the MAG multiple times since 2010. Their main concerns are referenced in Attachment L, and include:

- Providing a grade-separated crossing of the Capital Crescent Trail at Lynn Drive (see Mandatory Referral #3 for the Capital Crescent Trail)
- Noise Impacts: The Purple Line will run behind the homes of many residents, following Metrorail hours.
- Impacts to Elm Street Park

MTA remains committed to working with the Town. Therefore, MTA and MCDOT should:

- *Continue to work with the Town of Chevy Chase to address design refinements to the Purple Line and the Capital Crescent Trail to provide an additional grade-separated crossing of the trail and to reduce noise impacts and impacts to Elm Street Urban Park. (MTA, MCDOT)*

Station Access

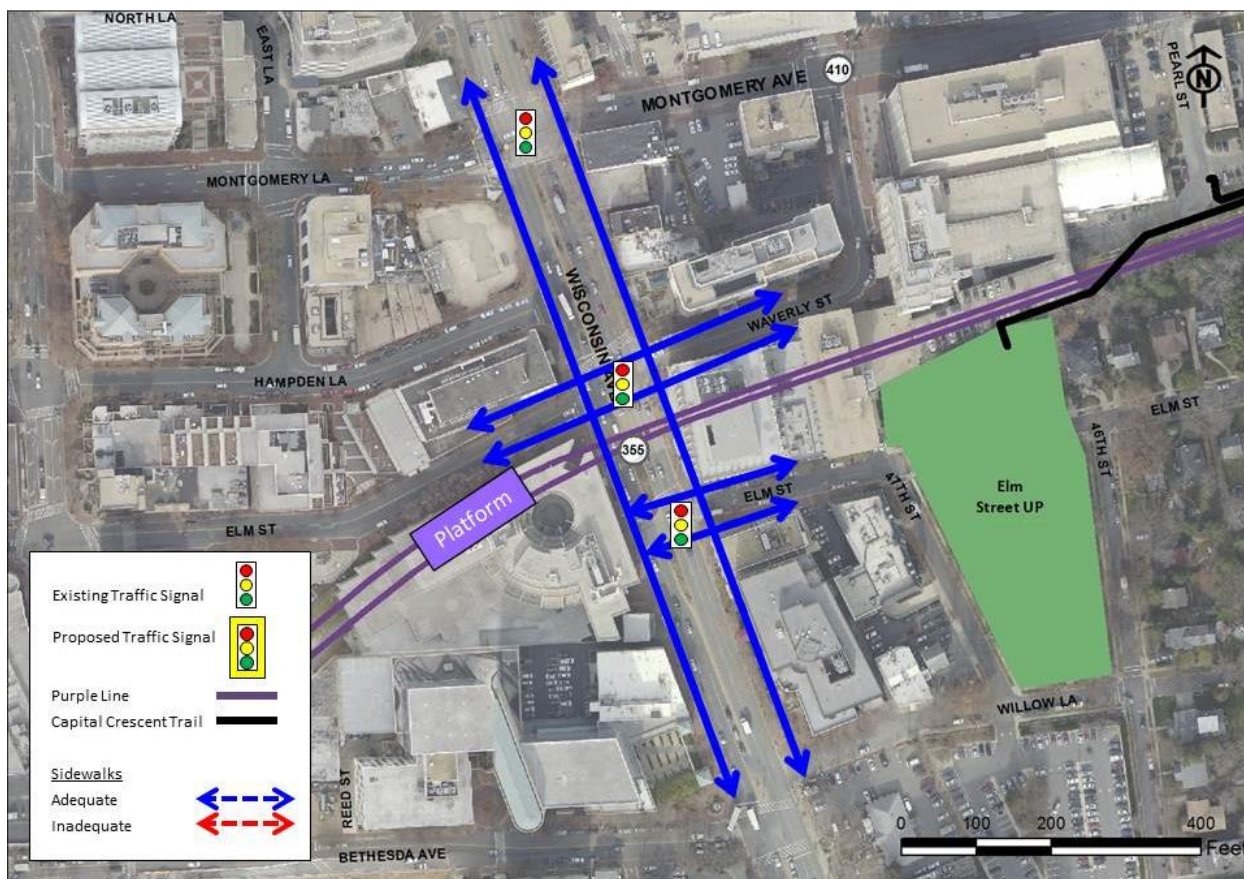
Current plans for the “default” Bethesda Purple Line Station include a platform that is functional, but could be improved. There are several support columns for the Apex Building in the platform, creating an impediment for pedestrian circulation and reducing the waiting area for boarding passengers. In addition, the platform is on a slight curve so there is a small gap between the train and the platform.

Pedestrian access to the Bethesda station will be “good” after completion of the Purple Line. There will be multiple ways to access the station on wide sidewalks that are separated from traffic, with closely spaced signalized intersections. In addition, the Bethesda Metro Station South Entrance project will provide a direct connection between the Red Line and Purple Line stations and there will be a 5 to 7-foot-wide sidewalk adjacent to the Purple Line inside the existing tunnel beneath Wisconsin Avenue.

While the community strongly requested the 5- to 7-foot-wide sidewalk in the existing tunnel, there are design challenges with it. A narrow sidewalk that is underground, adjacent to a light rail line, and that is likely to experience high usage will not be a comfortable passageway. This is another reason to strive for a new “trail” tunnel south of the existing “light rail” tunnel.

Direct bicycle access to the Bethesda Purple Line station is dependent on whether a new tunnel can be constructed for the Capital Crescent Trail and upon the construction of the Capital Crescent Trail Surface Route, currently under design by MCDOT.

Figure 1-13: Access to Bethesda Station



Source: Montgomery Planning Department

Community Design

The major community design issues related to the station include the location of a ventilation tower in Woodmont Plaza and a traction power substation that will be located between Montgomery Avenue and the Georgetown Branch.

NFPA 130 refers to the fire safety standards required by the Federal Transit Administration for all fixed guideway transit and passenger rail systems. To comply with these standards, MTA is proposing to locate fan houses (ventilation towers) on either side of the Bethesda tunnel. These fan houses are intended to be used only during emergency events to pull smoke out of the tunnel, though they would need to be tested about once a month. The fan house on the western end of the tunnel is proposed to be located in Woodmont Plaza. It is 40 feet by 18 feet and is 92 feet high and there are only limited areas where it can be located. MTA intends to locate the fan house in Woodmont Plaza, just outside the tunnel portal, unless it can be incorporated into a redevelopment project. The fan house on the east side of the tunnel will be located beneath the Air Rights Building garage.

A traction power substation will be located on the rear of a lot located on Montgomery Avenue. The location will cause the displacement of one business in a single family building.

ELM STREET URBAN PARK

The Purple Line project passes to the north of the park as it emerges from the Bethesda tunnel. The Capital Crescent Trail will be diverted through the park, since prior decisions removed it from the existing tunnel. The Capital Crescent Trail will “land” in the park after it crosses the Purple Line as it travels from the east. The trail will continue through the park and after it exits the park the trail heads into the Central Business District via both: 1) a future trail tunnel under Wisconsin Avenue and the Apex Building; and also 2) down 47th Street as part of the Capital Crescent Surface Route. MTA proposes temporary occupancy for the park, which the Department of Parks agreed would be a *de minimis* impact. The following highlights some of the commitments from MTA in the *de minimis* letter for this park and additional review of the mandatory referral submission..

Figure 1-14: Elm Street Urban Park



- MTA will maintain access to the park during construction.
- Land disturbed during construction of the proposed project will be returned to pre-construction conditions or better.
- Land upon which the temporary construction easement is placed will be returned to M-NCPPC upon completion of the construction of the trail connection.
- MTA will not construct stormwater management facilities within the boundaries of the park.
- MTA will provide a “functional interim condition” for Elm Street Park that safely realigns the Capital Crescent Trail, diverting trail traffic through the park to 47th Street. The reconstructed trail shall be designed to be ADA compliant and maintain functional use of the rest of the park, as coordinated with the Department of Parks.
- MTA will minimize visual and noise impacts of the Purple Line on Elm Street Park.
 - Views – The tunnel exhaust fan and the retaining walls associated with the CCT Bridge adjacent to the northern property line of Elm Street Park will be designed as an attractive edge to the park and may incorporate “Art in Transit” features, green screens and/or other high quality façade finishes and treatments. The park edge treatment shall be coordinated with the Department of Parks.
 - Noise – MTA will comply with the FDA requirements for noise mitigation. The regularly scheduled testing of the exhaust fan shall be scheduled to minimize impacts to park users and residents.

Figure 1-15: Bethesda Purple Line Station Minor Master Plan Amendment Recommended Tunnel Option



CONNECTICUT AVENUE STATION AREA

The Connecticut Avenue Purple Line Station will be located on the east side of Connecticut Avenue, between Manor Road and Chevy Chase Lake Drive. It is an elevated station, with a center platform. The Capital Crescent Trail runs along the north side of the tracks. Access to the elevated station is from Connecticut Avenue. There are elevators from street level to each platform, and a staircase from the street on the south side of the station. MTA forecasts that there will be 2,250 daily boardings at this station in 2040.

Figure 1-16: A View of the Connecticut Avenue Station Looking to the East



Source: Maryland Transit Administration

Master Plan Consistency

The Chevy Chase Lake Sector Plan was approved by the Montgomery County Council in July 2013. This station is generally consistent with the Sector Plan.

Connecticut Avenue Bikeway and Streetscape

The Chevy Chase Lake Sector Plan recommends a cycle track (CT-1) and a sidewalk on the east side of Connecticut Avenue, beneath the tracks and the Capital Crescent Trail. Ideally, this would include a minimum 3-foot buffer from traffic, a 10-foot-wide two-way cycle track, and 15-foot-wide combined landscaping / sidewalk area (28 feet total). However, it appears from the preliminary engineering drawings that there is only a 22-foot-wide space between the curb and the vertical circulation for the station to accommodate the cycle track and sidewalk area. This amount of space is sufficient, but not ideal. One way to implement the bikeway and streetscape recommendations is to narrow the cycle track to 8-feet and reduce the landscaping/sidewalk area to 11 feet. It is not recommended to reduce the buffer between the curb and the cycle-track. To the north and south of the tracks where there will be fewer constraints with redevelopment, the 28-foot section should be implemented.

The abutments on both sides of Connecticut Avenue are perpendicular to the Purple Line tracks, but create leftover trapezoidal sidewalks spaces under the bridge. Ideally, the abutments would parallel Connecticut Avenue, improving pedestrian security, avoiding areas for trash to collect, and framing the view along the avenue. While the abutments on the east side of Connecticut Avenue may be difficult to shift, due to the location of the elevators and the platform, it appears more feasible to redesign the abutments on the west side of Connecticut Avenue (see Figure 1-18).

- *If feasible, redesign the geometry of the abutments to be parallel to Connecticut Avenue.*
- *Provide wall-wash lighting along the abutment walls to enhance pedestrian safety.*

On the west side of Connecticut Avenue, access to the station platform is via a staircase or the ramp at the end of Newdale Road. Alternatively, persons in wheelchairs could cross Connecticut Avenue at Manor Road or Chevy Chase Lake Drive in order to access the elevators.

Chevy Chase Lake, Street B-1

The Chevy Chase Lake Sector Plan recommends a new public street (B-1) with a 60-foot right-of-way from Manor Road to Chevy Chase Lake Drive that provides a connection beneath the elevated section of the Purple Line and Capital Crescent Trail. MTA has agreed to construct a 60-foot-wide underpass for Street B-1. Some members of the community have asked that the underpass be increased to 100 feet. MTA is willing to construct a 100-foot-wide underpass subject to agreements with the Chevy Chase Land Company and MCDOT.

The Planning Department supports the 100-foot-wide underpass with the additional width specifically for pedestrians and bicyclists using an enhanced linear open space, for the following reasons:

- It provides more light and air for people passing through it – pedestrians and bicyclists in particular. The passage will be more pleasant and comfortable to use.
- It allows more opportunity to create a stronger visual and physical connection between the proposed central open space on the north side and the proposed neighborhood park on the south side – contributing to a better network of open space
- It reduces the impact of the Purple Line as a barrier separating north and south – and creates a more welcoming passage for flow between the sides
- It allows for higher visibility through the passage from either end consistent with Crime Prevention through Environmental Design (CPTED) principles.

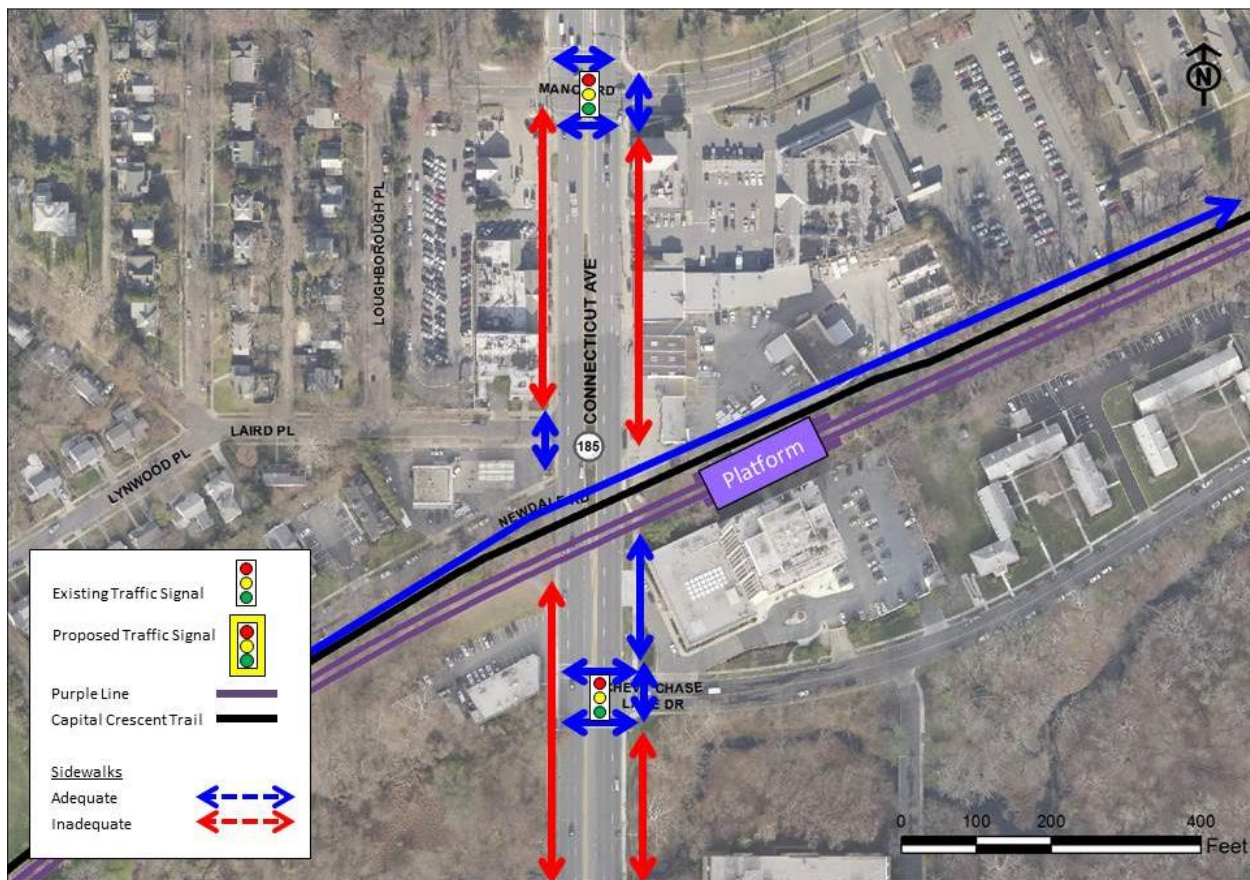
Therefore, MTA should:

- *Construct a 100-foot-wide underpass for Street B-1 in the Chevy Chase Lake Sector Plan.*

Station Access

Pedestrian access to the Connecticut Avenue Station will be “fair” after completion of the Purple Line. In general, the sidewalks along Connecticut Avenue are narrow and directly adjacent to the curb. While the Capital Crescent Trail will provide excellent east-west pedestrian and bicycle access to the station, most passengers will be accessing the station along Connecticut Avenue.

Figure 1-17: Access to Connecticut Avenue Station



Source: Montgomery Planning Department

With redevelopment this station area has the potential to have “good” pedestrian and bicycle access if the recommendations in the Chevy Chase Lake Sector Plan are fully implemented. Street B-1 will provide an attractive alternative to Connecticut Avenue, especially if a new access point to the Capital Crescent Trail can be provided on the east side of Street B-1 with redevelopment.

Community Design

There are a number of community design issues around the Connecticut Avenue station area.

A traction power substation will be located largely within the Georgetown Branch right-of-way, adjacent to the south side of the Purple Line tracks, about 200 feet west of Connecticut Avenue. There will be an access road that runs alongside the tracks with a driveway on Connecticut Avenue. To reduce the visual impact of the substation:

- Consider whether it is feasible to integrate the traction power substation at Connecticut Avenue into the elevated fill for the tracks and trail, with service doors along the retaining wall, to reduce visual impacts.

As one of the original arterials leaving and entering Washington DC, MTA must make every effort to preserve the viewshed along Connecticut Avenue. Therefore:

- *If feasible, redesign the Connecticut Avenue bridge structure to reduce visual obstructions both below and above the rail/trail bed. Staff suggests a shallow arch structure (or steel girder of similar profile if required) as the basis for design. This comment is consistent and more in keeping to the design intent indicated in the Chevy Chase Lake Master Plan. A similar design should also be considered for the proposed bridge over “New Street” just east of Connecticut Avenue.*

See Figure 1-18 below where this has been successfully implemented (although without appropriate pedestrian and bicycle accommodation underneath).

Figure 1-18: Example of a Shallow Arch Structure Bridge



Direct access is needed to the Capital Crescent Trail from the east side of Street B-1 so that trail users can access the proposed “central park” without having to cross the street.

- *Design the trail to accommodate a stair on the north side of the trail and the east side of Street B-1 to be provided by developers at a future date.*
- *Given the adjacency to residential and public spaces, the fill retaining walls should be designed with visual articulation. One suggestion is to provide concrete arch niches with appropriate depth to incorporate future community art. Pilasters between the niches can incorporate masonry veneer or stamped concrete forms to resemble local brick or stone materials.*

ROCK CREEK STREAM VALLEY PARK

The Purple Line project passes “through” the Rock Creek Stream Valley Park in a dedicated 255-foot-wide transportation right-of-way. There are few direct impacts to the park because MTA proposes to construct all rail and trail facilities within this right-of-way. The rail will cross the stream valley on a new bridge, and the Capital Crescent Trail will cross the stream valley parallel to the rail bridge but about 20 feet lower. See Figure 1-19.

Figure 1-19: Rock Creek Bridges for the Purple Line (front) and Capital Crescent Trail (rear)



In order to accommodate these two new bridges, MTA will be removing the existing trestle bridge. There are many secondary impacts, however, and associated mitigation measures will improve the condition of natural resources in the stream valley.

The following highlights some of the commitments from MTA in the *de minimis* letter for this park and additional review of the mandatory referral submission.. The project also will design and construct the connector trail from the Capital Crescent Trail down to the Rock Creek Trail.

De minimis Commitments:

- *Contingent upon approval by regulatory permitting agencies, as part of the removal of the existing bridge over Rock Creek, the pier foundation within the existing stream channel would be removed 12-18 inches below grade. The stream will be stabilized with appropriate stream design methods that factor hydrology, hydraulics, and existing conditions both upstream and downstream of the pier and aquatic passage. The design of the stream improvements will be further refined as the design of the project progresses.*

- *MTA will maintain access to the park and Rock Creek National Recreational Trail during construction.*
- *MTA will design the proposed CCT and the connection to the Rock Creek Trail to meet ADA requirements.*
- *Within the county right of way, the Rock Creek National Recreational Trail would be raised out of the one-year floodplain on an elevated wooden boardwalk to reduce flooding and siltation that currently plague the trail. MTA coordination with M-NCPPC will be ongoing regarding the design of the raised section of trail.*
- *MTA and the Purple Line Team has been and will continue to work extensively with National Capital Planning Commission (NCPC), M-NCPPC, and Montgomery County to improve the aesthetics of the proposed transitway and trail bridges through Rock Creek Stream Valley Park. The bridges will be designed as signature facilities with aesthetic considerations for park users.*
- *MTA will develop design of retaining walls, handrails and landscaping plans through the Park in consultation with M-NCPPC.*
- *The proposed detour of the Rock Creek National Recreational Trail will be temporary and for short periods of time during construction of the proposed project through Rock Creek Stream Valley Park.*
- *Selective tree clearing would occur within the Montgomery County right-of-way adjacent to Rock Creek Stream Valley Park. Replanting and restoration of disturbed areas would occur within the Montgomery County right-of-way to the extent reasonably feasible to mitigate for tree removal.*

Figure 1-20: Rock Creek Stream Valley Park



LYTTONSVILLE STATION AREA

The Lyttonsville Purple Line Station will be located to the south of Brookville Road and to the east of Lyttonsville Place. It is below street level and has a center platform. The Capital Crescent Trail will run along the south side of the tracks. Access to the station is via the Capital Crescent Trail; a ramp at the maximum allowable ADA grade will connect Lyttonsville Place with the trail to the east and Stewart Avenue will connect to the trail to the west. MTA forecasts that there will be 1,330 daily boardings at this station in 2040.

Figure 1-21: Lyttonsville Station Looking South to the Lyttonsville Place Bridge



Source: Maryland Transit Administration

Master Plan Consistency

The Purple Line Functional Plan (2010) and the North & West Silver Spring Master Plan (2000) are the relevant plans for this station area. The Greater Lyttonsville Sector Plan was resumed in March 2014 after a delay to accommodate an adjustment in the Planning Department's master plan schedule. MTA has made substantial efforts to reduce the size and impact of the Purple Line maintenance facility. It is now nearly contained in an area west of Lyttonsville Place, south of Brookville Road.

Of the seven Purple Line stations serving Montgomery County, sector plans have been completed for five station areas (Bethesda, Chevy Chase Lake, Long Branch, Piney Branch Road, Takoma Langley Crossroads). The Lyttonsville and Woodside Stations are part of the Greater Lyttonsville Sector Plan, now underway. Analysis for the sector plan area has identified potential issues that could affect redevelopment opportunities along Brookville Road and access for the Forest Glen Annex. MTA should:

- *Create a mechanism during final design of the Purple Line to accommodate reasonable refinements at the Lyttonsville and Woodside stations that are identified during the preparation of the Greater Lyttonsville Sector Plan.*

- *Continue to work with the Planning Department during the Greater Lyttonsville sector planning process to accommodate the potential for improved access and community development.*

The Purple Line Functional Plan (page 19) recommends an elevator, stairs, and a ramp from Lyttonsville Place to the platform, however, the mandatory referral submission only shows stairs and a ramp with an 8% grade. This elevator is important because it will assist people who are unable to use stairs or a steep ramp to access the station.

- *Provide an elevator on the east side of the Lyttonsville Lane bridge leading down to the platform centerline, consistent with the Purple Line Functional Plan.*

Community Concerns

The Greater Lyttonsville community has expressed numerous concerns about the Purple Line. Perhaps the biggest concern was the original design of a maintenance facility – recommended in the Purple Line Functional Plan – that extended along the south side of Brookville Road between the RideOn bus depot and Stewart Avenue. In 2011 and 2012, with much involvement with the community, elected officials, and county staff, the Purple Line team redesigned the maintenance facility with a substantially smaller footprint. Subsequent iterations of the design have further reduced the footprint so that it is now largely contained within an area west of Lyttonsville Place bridge.

However, the community has additional concerns:

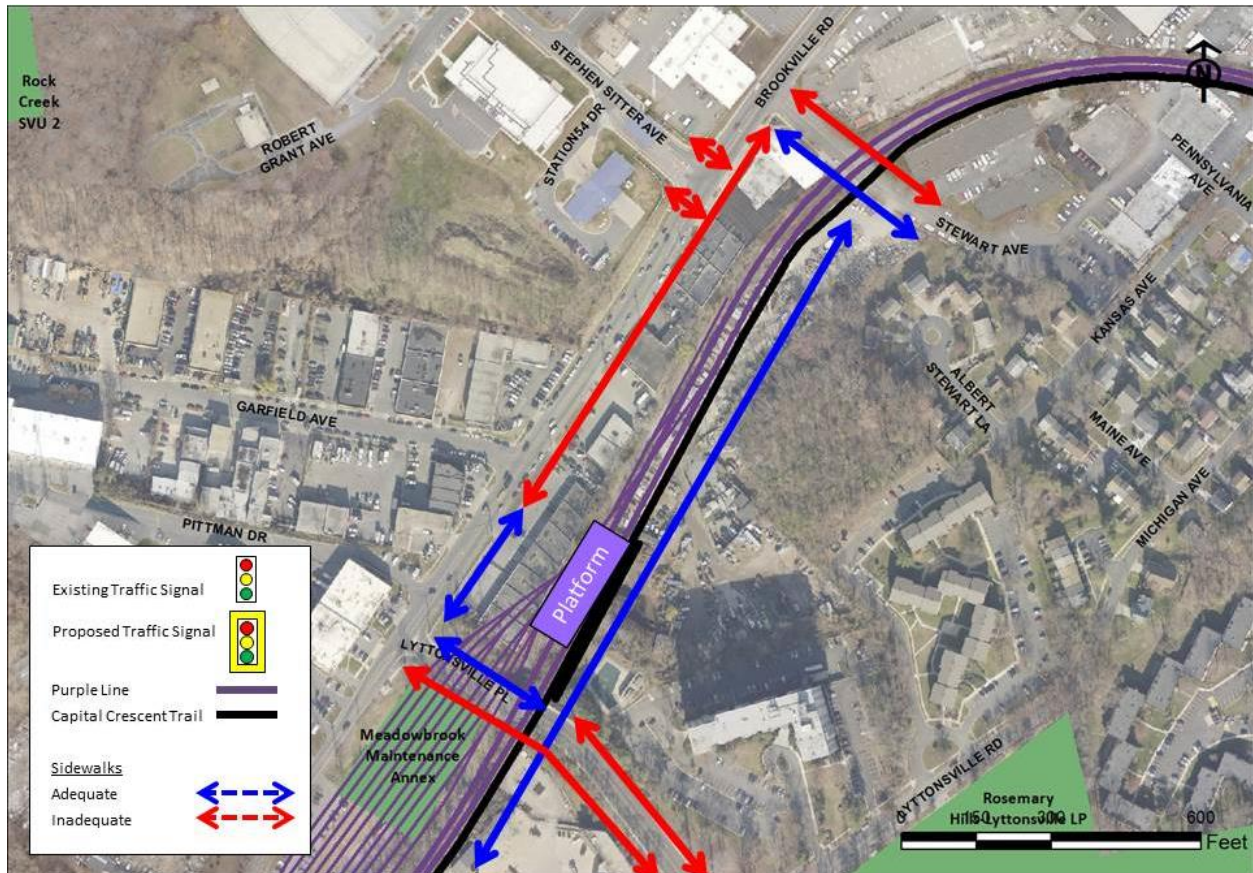
- **Lyttonsville Maintenance Yard:** While most of the Lyttonsville maintenance yard has been consolidated to the west of Lyttonsville Place and south of Brookville Road, there are tracks and a small driveway that occupy the northeast corner of Lyttonsville Place and Brookville Road. Absent the maintenance yard, this site has perhaps the greatest potential for redevelopment, due to its proximity to the Lyttonsville station and its depth.
- **Access to the station for Forest Glen Annex Employees:** Pedestrian access to the Purple Line station from the Forest Glen Annex is indirect and is less than desirable.
- **Property Acquisitions on Talbot Avenue:** Revised plans along Talbot Avenue will require additional strip property acquisitions from single-family homes.
- **Location of Traction Power Substation:** MTA plans to locate the substation in a residential neighborhood, adjacent to the Purple Line tracks. The community would like the substation to be shifted to the north, away from homes.
- **Preservation of the Talbot Avenue Bridge:** The community would like the Talbot Avenue bridge to be preserved for future use in another location. According to MTA, inspection reports state that the bridge is in such poor condition that salvage/refurbishment would not be recommended.
- **Museum Space:** The community would like MTA to acquire space for a future museum to highlight the community's history. They suggest the building at the southeast corner of Brookville Road and Stewart Avenue.

In addition, the community is concerned about short term impacts during construction, such as noise, dust, traffic, vibration and would like MTA to establish a working group to address these issues as they arise. They would also like assistance for businesses that are likely to be impacted by construction.

Station Access

Pedestrian access to the Lyttonsville station will be “poor” after completion of the Purple Line. While the Capital Crescent Trail will provide excellent east-west access to the station, passengers traveling from the residential areas of Lyttonsville and Rosemary Hills, as well as employees and visitors at the Forest Glen Annex, will be confronted with inadequate sidewalks and crossings.

Figure 1-22: Access to Lyttonsville Station



Source: Montgomery Planning Department

Access from the Forest Glen Annex

MTA envisions that employees and visitors departing the Forest Glen Annex will utilize Stewart Avenue and the Capital Crescent Trail to access the station. However, there is no signalized intersection at the entrance to the Annex at Stephen Sitter Avenue (the existing traffic signal is for Fire Department access only), the sidewalks along Brookville Road are adjacent to industrial uses with multiple driveways, and there is no funding at this time to provide illumination for the trail. In addition, along Stewart Avenue the current plan is to provide two 12-ft wide lanes, two 12-ft wide parking lanes, a 4-ft wide buffer and 5-ft sidewalk on the south side, and a 5-ft wide sidewalk at the curb on the north side. Furthermore, Stewart Avenue has a steep grade and will be difficult for some pedestrians to navigate.

The following improvements are recommended to enhance station access from the Forest Glen Annex:

- *Since Stewart Avenue will be the main access route for employees at the Forest Glen Annex until a new access point on Brookville Road can be constructed, reduce the parking lane widths on Stewart Avenue to 8 feet and reallocate that space to the sidewalk area to achieve a 5 foot buffer and 10 foot sidewalk on the south side and a 9 foot sidewalk on the north side. (MCDOT)*
- *Provide a traffic signal at the intersection of Brookville Road and Stephen Sitter Avenue. (MCDOT)*

Access from Lyttonsville Place Bridge

Access is also poor for residents accessing the station from Lyttonsville Place, but can be improved since the Lyttonsville Place bridge will be reconstructed by the Purple Line project. The bridge has two 14-foot-wide travel lanes, two 10-foot-wide parking lanes, a 12-foot-wide sidewalk on the north side and a 5-foot-wide sidewalk on the south side. While the north side of the bridge is clearly the more important pedestrian location since it connects to the Lyttonsville Station, it is also important to provide sufficient space for pedestrians on the south side of the bridge, since MTA is proposing a bus stop to the south.

Lyttonsville Place east of the bridge was highlighted on page 1-**Error! Bookmark not defined.** It is proposed to have 5-foot-wide sidewalks adjacent to the curb on both sides of the road. Right-of-way is limited, slopes are steep, and redevelopment potential is limited.

Bicycle access to the Purple Line station is good and is provided by the Capital Crescent Trail. However, the reconstruction of Lyttonsville Place bridge presents an opportunity to also enhance on-road bicycle access, connecting the residential areas with the industrial/employment areas along Brookville Road.

The only way to widen the sidewalks and provide bicycle lanes without widening the bridge would be to repurpose the “activity lanes.” MCDOT has acknowledged that only one through traffic lane is needed in each direction, though for capacity reasons an extra turn lane is needed at the intersections. The main reason wider sidewalks and bicycles lanes are not provided appears to be to accommodate a bus pull-off area so that buses do not block traffic. Currently, RideOn service in the area is intermittent. With the introduction of the Purple Line there is likely to be greater demand for bus service, but until RideOn conducts a bus service planning study it is unclear by how much.

- *Widen the proposed 5-foot-wide sidewalk on both sides of Lyttonsville Place to at least 7 feet to meet AASHTO recommendations and provide bicycle lanes by removing the “activity lane.” (MCDOT)*

Furthermore, it is not clear that a bus stop on Lyttonsville Place is the best location:

- If the Forest Glen Annex provide shuttles from their campus to the station, it would be preferable to have a stop on Brookville Road, instead of Lyttonsville Place, so that the shuttles can turn around at the RideOn Depot instead of circulating through the community. While RideOn buses currently stop within the base, the Forest Glen Annex is upgrading security, and it is possible that they will rely on their own shuttle service in the future.
- The curb-to-curb distance on Brookville Road is wider than Lyttonsville Place.
- A bus stop on Lyttonsville Place requires an at-grade crossing, whereas a bus stop on Brookville Road could be located next to a stop-controlled intersection.
- Once an access point on Brookville Road is provided (see discussion below), transit passengers will be able to avoid having to use a steep ramp or staircase to go from the bridge to the platform.

Therefore, MCDOT should:

- *Consider a bus stop with a pull-off area on Brookville Road instead of Lyttonsville Place and improve the crossing of Brookville Road at Lyttonsville Place for pedestrians. (MCDOT)*

One additional item of note is that there is a conflict between cyclists traveling on the Capital Crescent Trail and Purple Line passengers crossing the Capital Crescent Trail to get from the ramp to the Purple Line platform and the sight distance should be increased.

- *Provide a larger landing area at the base of the proposed ramp down to the Capital Crescent Trail from Lyttonsville Place. The landing and crossing could be designed to incorporate local historical and cultural enhancements. (MCDOT)*
- *The conflict point on the Capital Crescent Trail at the ramp from Lyttonsville Place should include features that inform bicyclists of pedestrian crossings. (MCDOT)*

Brookville Road

At the intersection of Brookville Road and Lyttonsville Place, the north leg of the intersection on Brookville Road has an acceleration lane. The acceleration lane exists today, but it is unclear why it is needed when the intersection is a four-way stop and the only traffic coming from the south is originating at the RideOn maintenance depot.

- *Eliminate the acceleration lane on the north leg of the intersection of Brookville Road and Lyttonsville Place. Instead use the space for wider sidewalks and bike lanes to provide continuity from the proposed sidewalks on the Lyttonsville Place bridge. (MCDOT)*

Community Design

While the purpose and need statement for the Purple Line focuses on mobility and connectivity, the project also provides excellent opportunities for community building and redevelopment. The Planning Department is just beginning a master plan for this area. The Greater Lyttonsville community envisions a redeveloped Brookville Road and Lyttonsville Station as a focal point of the community.

The redesign of the Lyttonsville maintenance yard improves the redevelopment opportunities along Brookville Road. However, two issues remain that continue to limit redevelopment potential. First, there remains a small access driveway to the maintenance facility located just east of Lyttonsville Place bridge, at the corner with Brookville Road. This driveway is located in perhaps the most likely area for redevelopment due to its proximity to the Lyttonsville Station and because it has the greatest depth of any parcel on the south side of Brookville Road. Second, the current design does not take advantage of the significant workforce (approximately 2,400 employees and an unknown number of visitors) located at the Forest Glen Annex of Fort Detrick, located just a few blocks away. Current designs envision access to the station from the Forest Glen Annex via Stewart Avenue and the Capital Crescent Trail, completely bypassing Brookville Road.

If an access point could be created that links Brookville Road directly to the Lyttonsville Station platform, either as part of the Purple Line project or as part of redevelopment, many Forest Glen Annex employees would commute to and from the station via Brookville Road, helping to bolster the market for retail and service establishments along Brookville Road.

On February 27, 2014, Planning Department staff met with an architect for the Purple Line whose consultation services were provided pro bono to the Planning Department by MTA to help develop a

potential future station access point on Brookville Road. The discussion focused on connecting Brookville Road to a mezzanine above the platform level via an aerial crossing. Three concepts were developed (see Attachment M):

- Alternative A: an aerial crossing approximately 280 feet east of the station platform via county-owned property with a new stair and elevator in the middle of the platform
- Alternative B: an aerial crossing at the east end of the station platform via land to be purchased by MTA, with a new stair east of the Capital Crescent Trail
- Alternative C: an aerial crossing at the east end of the station platform via land to be purchased by MTA, with a new stair and elevator in the middle of the platform

At this point in the process it is not necessary to determine which alternative is preferable – this will be done as part of the Greater Lyttonsville Sector Plan. What is important is that the Purple Line be constructed in such a way as to not preclude the alternatives. Therefore, MTA should:

- *Adjust the overhead catenary system poles and downguy locations at the Lyttonsville Station to accommodate the three identified alternatives for station access from Brookville Road. Locate the track crossovers just to the east of the Lyttonsville station platform to not preclude a future access point from Brookville Road.*
- *Conduct final design for station access from Brookville Road to the Lyttonsville Station platform based on feedback from the Planning Department.*

Additionally, to enhance redevelopment opportunities:

- *Include criteria in the Purple Line RFP that incentivizes a further reduction in the size of the Lyttonsville maintenance facility to avoid impacts north of the Lyttonsville Place bridge.*

TPSS#3: A traction power substation (TPSS) will be located in the Georgetown Branch right-of-way, in an industrial area between Rock Creek Park and Ride On bus depot.

- *TPSS #3 should be screened in accordance with the wooded surroundings. At a minimum, a masonry exterior, screening of all exterior roof systems, and a board-on-board fence rather than a chain link fence surrounding the structure must be provided to properly blend with the wooded surroundings.*

TPSS#4: A traction power substation will be located on land owned by CSX Transportation, at the end of Kansas Avenue adjacent to a residential neighborhood. While MTA plans to screen the substation, its location in a residential area is undesirable. There is industrial land on the other side of the Purple Line tracks that is more suitable for the substation. MTA should:

- *Continue to investigate shifting the location of TPSS #4 just to the north in the area bounded by the Georgetown Branch, the Metropolitan Branch, and the industrial property. If the substation cannot be relocated, MTA should design a substation that resembles a single story home with materials that resemble the existing homes in the area.*

Additional Lyttonsville station area comments include:

- *The Lyttonsville Station and associated trail, stair, and ramp access should be designed to reflect their status as community landmarks; incorporating public art that depicts the cultural and historic features of the community. Particular emphasis should be placed on Lyttonsville's African*

American heritage. Staff recommends that Art in Transit funds be utilized for the entry canopy at the top of the Lyttonsville Place bridge to the pedestrian ramp in order to provide a memorial, historical marker, and community information boards. This area could also contain directional maps of the Lyttonsville area. Furthermore, the retaining walls can be made available for public art to call attention to the natural and social history of Greater Lyttonsville.

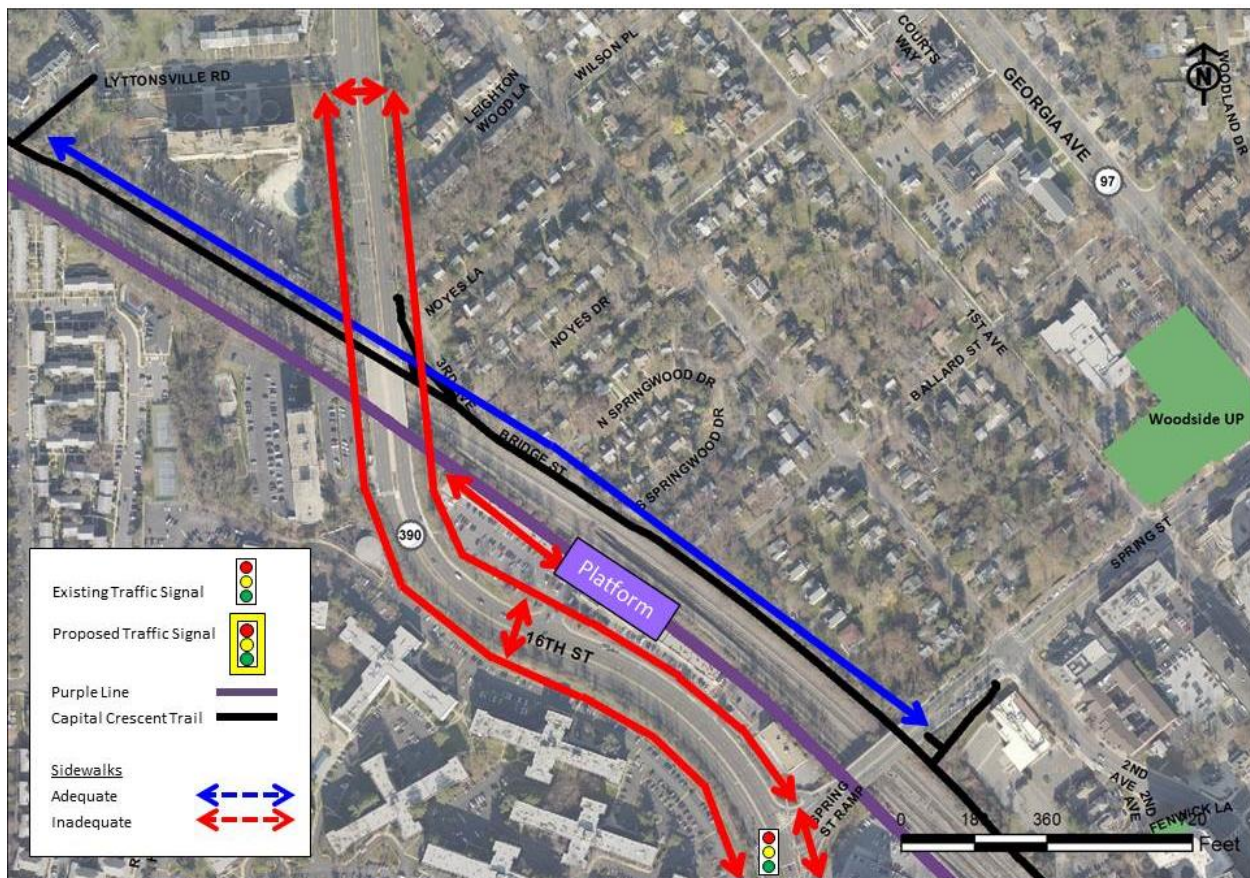
- *Utilize all opportunities for spot landscaping along the retaining wall and sound barriers along the Capital Crescent Trail to reduce their apparent size and intrusiveness on the neighborhood.*
- *The glazing shown on the staircase from Lyttonsville Place to the Purple Line platform (see Volume 7, Plan Sheets 167 and 169) must be designed to allow maximum light infiltration and to be transparent from the platform to ensure “eyes on the street” or in this case, “eyes on the stairs” for essential safety precautions, in support of Crime Prevention through Environmental Design (CPTED) guidelines.*
- *The maintenance and operations building must meet or exceed LEED Silver ratings as required for all commercial structures in Montgomery County.*
- *In addition to lighting the Capital Crescent Trail under the Lyttonsville Place bridge, provide wall-wash lighting along the bridge abutment walls to enhance pedestrian safety. (MCDOT)*

The Woodside Station will be located on the east side of 16th Street, to the north of Spring Street, at the location of the existing Spring Center. It has side platforms. Access to the station is from 16th Street. MTA forecasts that there will be 1,620 daily boardings at this station in 2040.

The Purple Line Functional Plan (2010) and the North & West Silver Spring Master Plan (2000) are the relevant plans for this station area. The Greater Lyttonsville Sector Plan (as described above) will also address redevelopment opportunities near this station.

Pedestrian access to the Woodside Station will be “poor” after completion of the Purple Line.

Figure 1-24: Access to Woodside Station



Source: Montgomery Planning Department

Kiss-and-Ride

There is no vehicular drop-off or access from 16th Street. The Greater Lyttonsville Sector Plan should evaluate whether kiss and ride facilities are needed.

Access from the Woodside Neighborhood

There is no direct access to the Purple Line station directly over the tracks to the Woodside community. Residents of the Woodside neighborhood will instead walk along 16th Street via a 5-foot-wide sidewalk adjacent to the curb and then on a 5-foot-wide sidewalk that descends to the Purple Line station. The Greater Lyttonsville Sector Plan should evaluate whether an overpass of the tracks is feasible and desirable at this location and how the redevelopment of the station area can integrate improved pedestrian and bicycle access.

Access from Summit Hills Apartments and 8600 16th Street

The Purple Line Functional Plan (page 25) recommends “pedestrian connections to apartments on the west side of 16th Street.” The Purple Line project includes sidewalks, ramps, and stairs on the west side of 16th Street and a striped crosswalk connecting to Woodside Station. It does not propose to signalize the crosswalk even though there are over 1,200 residents that could benefit from this connection. For pedestrians that are uncomfortable crossing an unsignalized 6-lane road with a posted speed limit of 35

mph, the nearest signalized crossing of 16th Street is 800 feet to the south at Spring Street. This would require a deviation of as much as 7 minutes, which is substantial, given that the average person will walk as much as 10 minutes to a transit station. While a pedestrian signal may not meet traditional signal warrants based on existing conditions, it is unacceptable that so many pedestrians will be forced to cross a 6-lane highway to access a rail station without a signal.

The existing “Maryland T” intersection at the 16th Street entrance to the Spring Center was not designed to accommodate pedestrian access. However, pedestrians from the Summit Hills apartment building and the residential building at 8600 16th Street will be crossing at this location. A sidewalk along the west side of 16th Street is listed in the CIP as a facility planning candidate project so additional pedestrians will likely also be crossing at this intersection.

- *To ensure safe pedestrian access from the west side of 16th Street to the Woodside Station: 1) replace the “Maryland T” intersection at the existing Spring Center with a normal tee intersection that does not have the splitter island in the median; 2) provide a pedestrian refuge on the south leg of the new tee intersection; and 3) provide a pedestrian-actuated traffic signal at the new intersection. (SHA)*

Access from the Park Sutton Condos

While the intersection of 16th Street and Lyttonsville Road is not signalized, residents of the Park Sutton condos will be able to use the Capital Crescent Trail to pass beneath 16th Street, walk up a ramp to the east side of 16th Street, and then use 5-foot sidewalks along the east side of 16th Street and into the station area. This is not ideal, but is acceptable, especially if the Capital Crescent Trail contains adequate overhead lighting.

Access from the South

With the presence of the Woodside Purple Line station and potential future redevelopment under consideration by the Lyttonsville Sector Plan team, the intersection of 16th Street and Spring Street can become a more pedestrian-friendly crossing. In order to: 1) reduce pedestrian crossing distances for Spring Street, 2) reduce the speed of turning vehicles, 3) create more redevelopment space at the southeast corner of the intersection, and 4) create additional space for bike lanes:

- *Eliminate the free right turns and realign Spring Street and the Spring Street Bridge to form a tee intersection with 16th Street as part of the reconstruction of the Spring Street bridge. (SHA, MCDOT)*
- *At the intersection of 16th Street and Spring Street provide a minimum 6-foot-wide median pedestrian refuge on the north leg of the intersection. (SHA)*

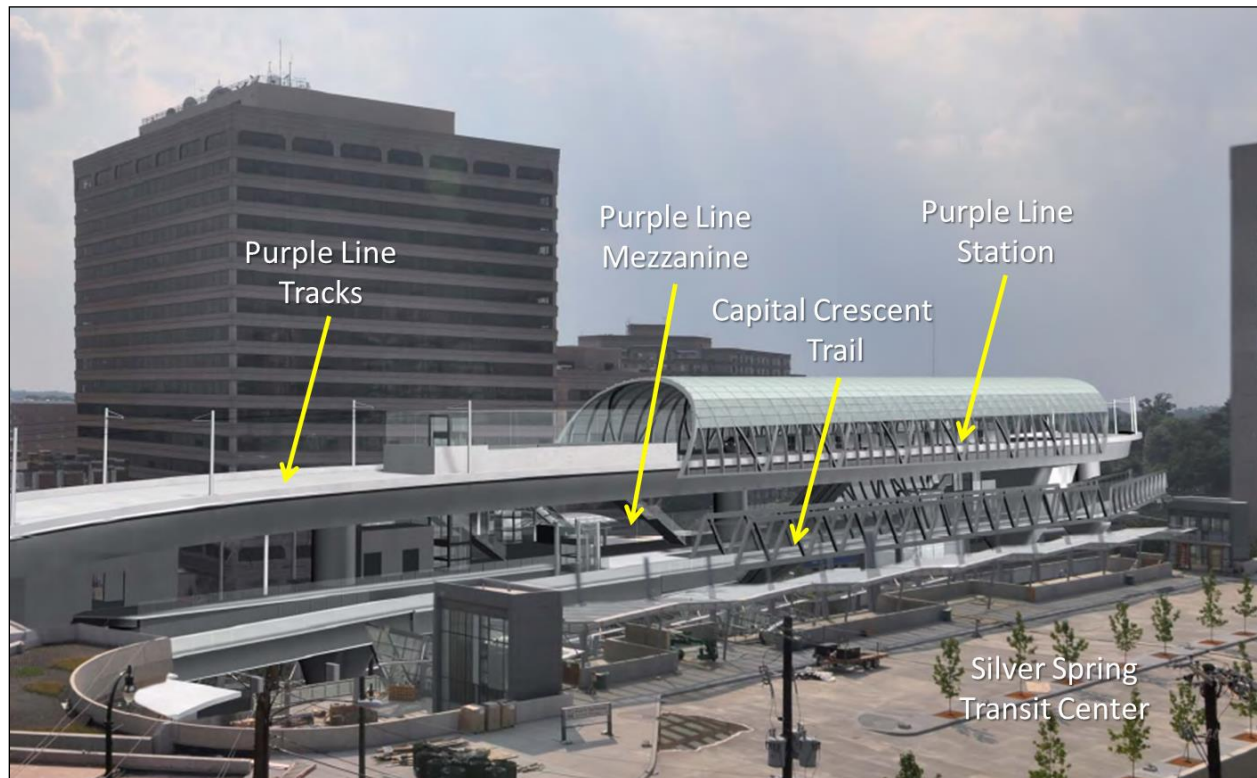
The Spring Street bridge will be reconstructed by the Purple Line project. The bridge includes two 16-foot-thru/bike lanes, two 8-foot-parking lanes, and two 5-foot-wide sidewalks. The sidewalks on both sides of the bridge do not meet minimum AASHTO recommendations. Furthermore, it is unclear why on-street parking is needed on a bridge. If on-street parking is provided, the parking meters will reduce the walking space for pedestrians to less than 5 feet.

- *Eliminate both rows of parking on the Spring Street bridge. Widen the proposed 5-foot-wide sidewalks to 13 feet wide. Separate the 16-foot-wide shared travel lane into 11-foot-wide thru lanes and 5-foot-wide bike lanes.(MCDOT)*

SILVER SPRING TRANSIT CENTER STATION AREA

The Silver Spring Transit Center Purple Line Station will be located in the area between the existing CSX/Red Line/MARC tracks and the Silver Spring Transit Center. It will have a center platform that is above the existing CSX/Red Line/MARC tracks, about 80 feet above street level. A mezzanine located between the Purple Line platform and the CSX/Red Line/MARC tracks will facilitate connections between the Purple Line platform, the Capital Crescent Trail, the MARC platform, and a future direct connection to the Red Line. The Silver Spring Transit Center station – along with the Bethesda station – is expected to have the highest ridership along the Purple Line corridor. MTA forecasts that there will be 12,940 daily boardings at this station in 2040.

Figure 1-25: A View of the Silver Spring Transit Center Station Looking to the West



Source: Maryland Transit Administration, with added annotations

Master Plan Consistency

The Purple Line Functional Plan (2010) and the Silver Spring CBD Sector Plan (2000) are the relevant plans for this station area. The Purple Line Functional Plan (page 27) recommends a direct connection between the Red Line and the Purple Line. MTA has made design provisions for a future direct connection between the Purple Line and Red Line, but this connection is estimated to cost about \$27.9 million by WMATA and is unfunded. The marginal cost to add the direct connection may be less than \$27.9 million, if its provision would reduce the need for some of the vertical circulation planned between the Silver Spring Transit Center and the Purple Line and the CSX/Red Line/MARC tracks.

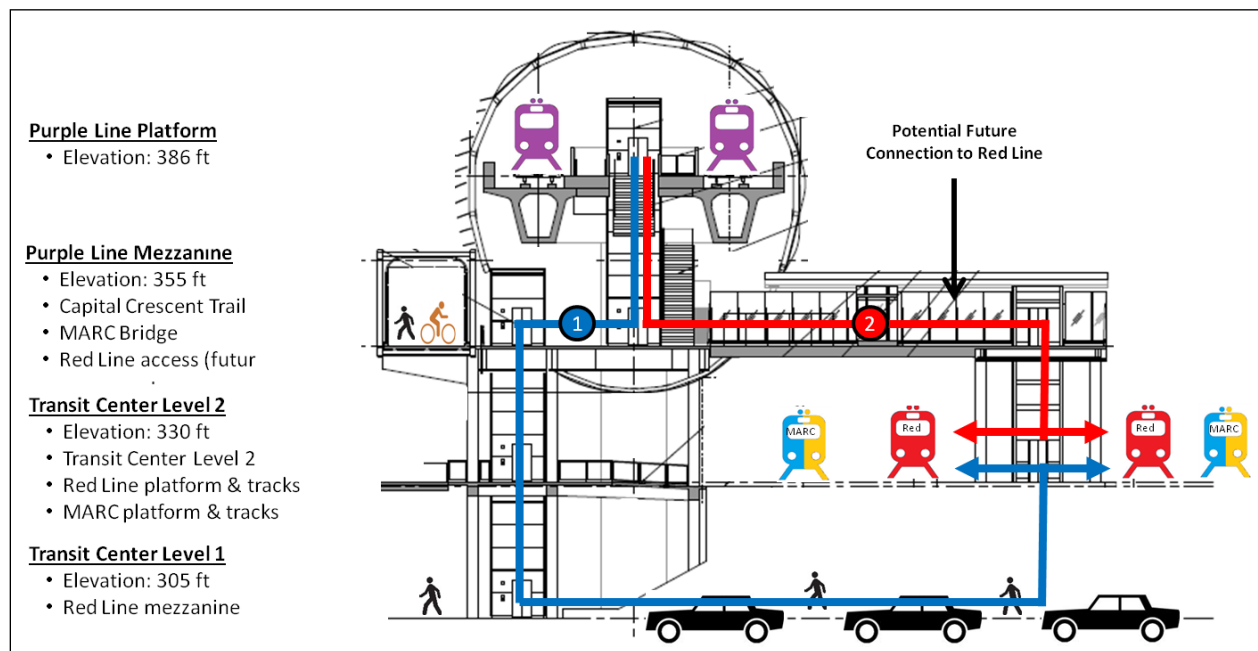
- *Assess whether any of the vertical circulation between the Silver Spring Transit Center and the CSX/Red Line/MARC could be reduced if a direct connection between the Red Line and Purple*

Line was constructed as part of the Purple Line, and therefore what the marginal cost would be to add the direct connection.

Ease of transfers between transit lines plays an important role in encouraging people to use public transportation. Under existing plans, passengers transferring between the Purple Line and the Red Line will have to descend 80 feet to street level and then ascend about 25 feet to the Red Line tracks (see Path #1 in Figure 1-26). This will increase travel time for passengers and create additional pedestrian congestion in the vertical circulation for the Red Line and Purple Line. With the future direct connection passengers will avoid using the vertical circulation column between the Red Line and the Purple Line (see Path #2 in Figure 1-26). Therefore:

- ➡ *Design and construct a convenient direct connection between the Red Line and the Purple Line at the Silver Spring Transit Center station. (MTA and MCDOT)*

Figure 1-26: Alternative Routes between the Red Line and Purple Line



Purple Line passengers with disabilities accessing the station from street level must take two elevators to get to the platform, transferring at the mezzanine level. This increases their travel time.

- ➡ *At the Silver Spring Transit Center provide a more direct connection from street level to the Purple Line platform for passengers needing elevator access.*

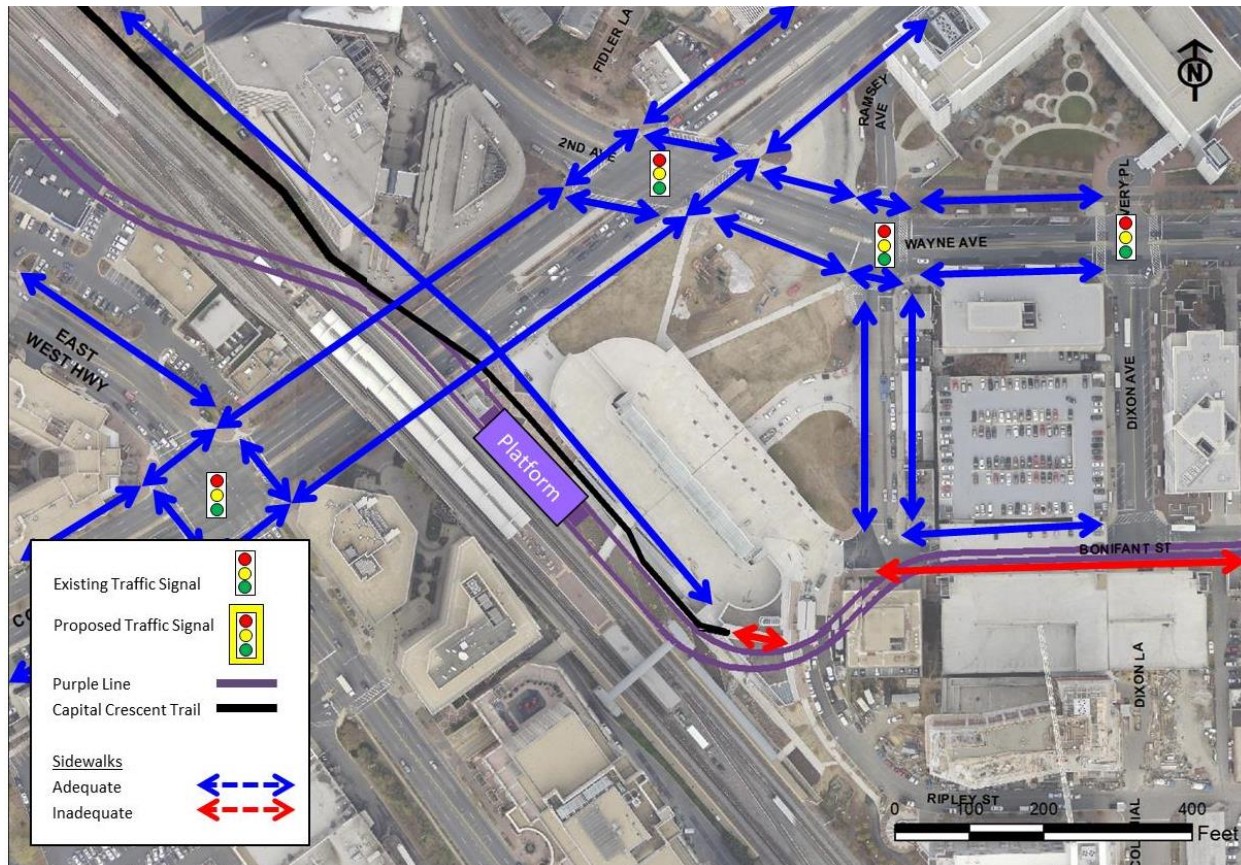
Users of the Capital Crescent Trail have to travel to the east end of the station to access the mezzanine, but it appears that direct access from the trail to the mezzanine could be provided from the trail.

- ➡ *Evaluate whether it is possible to provide direct access to the Purple Line mezzanine from the Capital Crescent Trail to the east of the escalator.*

Station Access

Pedestrian access to the Silver Spring Transit Center Station will be “good” after completion of the Purple Line. While good on-road bicycle accommodations do not exist, the construction of the Capital Crescent Trail and the Metropolitan Branch Trail will introduce an excellent network of bikeways that provide grade-separated access to the station.

Figure 1-27: Access to Silver Spring Transit Center Station



Source: Montgomery Planning Department

In addition, as a major transfer station for the Red Line, Purple Line, and buses, Silver Spring will require a substantial number of bicycle parking spaces. A recent study conducted by Toole Design Group evaluated several locations for a full service bicycle parking station in the vicinity of the Silver Spring Transit Center. One of the more promising locations is at 1110 Bonifant Street, an office building that MTA will demolish to construct the Purple Line. A remnant of the parcel is planned to be used for stormwater management, but MTA has indicated that it could easily be relocated offsite.

- ➡ *Relocate the stormwater management facility proposed on the remnant of 1110 Bonifant Street to an offsite location. After completion of the Purple Line, the County should be given first right of refusal for use of the remnants of this parcel for the Silver Spring Bicycle Parking Facility.*

MTA has indicated they are willing to accept this recommendation.

Community Design

TPSS #5: The traction power substation will be located in the existing Metro Plaza commercial area, located off of East-West Highway. It will be adjacent to a WMATA substation, in the location of the existing FedEx store. There will be a driveway off of East-West Highway.

- *The design of TPSS #5 should allow air rights over the substation so that future development can fully utilize the CBD-3 density allowed at this location.*

The existing Silver Spring Metrorail station will be at a considerably lower elevation than the Purple Line platform and mezzanine, but experiences high winds and driving rains under current conditions. The greater height of the Purple Line may exacerbate these conditions. Therefore, MTA should:

- *Determine whether the addition of the Purple Line above the Red Line station will exacerbate the high winds and driving rains at the Metrorail station. If this is likely to occur, MTA should modify its station design to reduce the effect.*

TRANSIT PARK/PLAZA EASEMENT AREA LOCATED AT THE SILVER SPRING TRANSIT CENTER

The M-NCPPC holds a permanent surface easement of 11,458 square feet located at the entrance to the Silver Spring Transit Center, known as the Transit Plaza Replacement Easement Area. According to the 2008 Memorandum of Understanding (MOU) for Vacating Original Park Easement and Granting Replacement Easements between WMATA, M-NCPPC and Montgomery County, the plaza area is intended to serve as an “open space area for ingress into and egress out of the Transit Center, serving as an attractive portal into the Silver Spring Central Business District”. The easement is partial replacement for the now vacated, 35,354 square foot easement formally known as Metro Urban Park, which was needed to construct the transit center.

Per Section 5 of the MOU, Reservation of Rights for Purple Line, “the Commission shall require that design plans for the Purple Line which include revisions to the Transit Plaza Easement Area, be submitted to the Commission for Mandatory Referral review”. In addition, WMATA and the Commission agreed “to collaborate through the Purple Line planning process and advocate development and implementation of a design that does not render the Transit Plaza Easement Area or the Jug Handle Replacement Park ineffectual as public open space” And conversely, “the Commission will not impede construction of the Purple Line.”

The MOU states that “In the event that the modifications required for construction of the Purple Line are so significant as to render the Transit Plaza Easement Area ineffectual as open space, WMATA and the Commission will endeavor to reach an agreement to designate other property located in Montgomery County that is comparable to replace the Transit Plaza Easement Area no longer operative as public open space”.

➡ *MTA and the Department of Parks agree to work collaboratively to ensure a high quality design is achieved, utilizing materials previously approved for use within the Transit Plaza Easement Area, (as identified in Exhibit E of the MOU), for this important heavily used civic space. Special consideration shall be given to locating features associated with the Purple Line construction so as not to render the Transit Plaza Easement Area ineffectual as open space, or limit its intended use for ingress and egress from the Transit Center, or as an attractive portal to downtown Silver Spring.*

BONIFANT STREET: SILVER SPRING TRANSIT CENTER STATION TO SILVER SPRING LIBRARY STATION

Master Plan Consistency

The Purple Line Functional Plan (2010) and the Silver Spring CBD Sector Plan (2000) are the relevant plans for this area.

The master plans recommend Bonifant Street as a two-way street. However, there is insufficient space to accommodate two traffic lanes, two rows of parking, and the Purple Line. West of Georgia Avenue, MTA is proposing to make Bonifant Street a one-way road in the westbound direction, with two dedicated lanes for the Purple Line. East of Georgia Avenue, MTA is proposing to make Bonifant Street a one-way road in the eastbound direction, with a dedicated westbound lane for the Purple Line, a shared eastbound lane for the Purple Line and traffic, and a dedicated eastbound traffic/delivery lane. MTA will be eliminating on-street parking on the north side of the street.

Community Concerns

The community has expressed a number of concerns over the past few years, including:

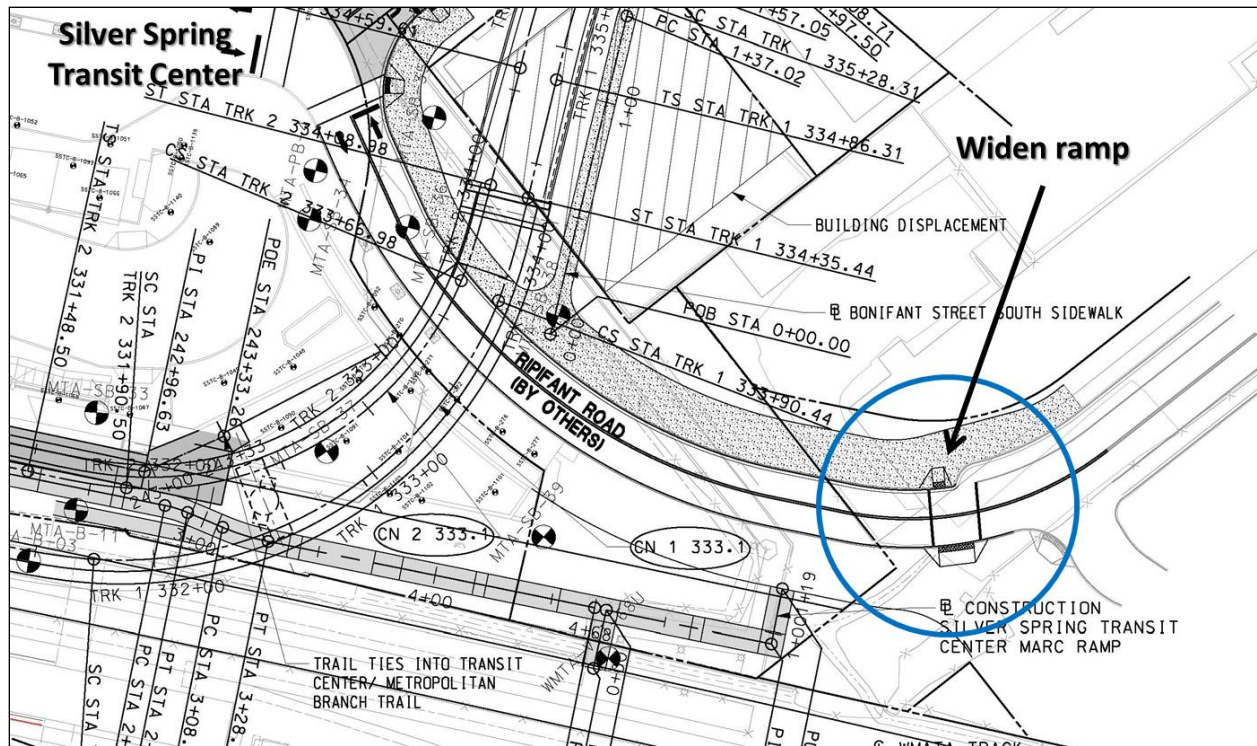
- **Loss of On-Street Parking:** The community is concerned that businesses on Bonifant Street will be negatively affected by the loss of on-street parking on the north side of the road. MTA has reduced the number of lost parking spaces, but has not yet been able to fully replace all parking spaces.
- **Delivery Trucks Blocking Traffic:** Bonifant Street east of Georgia Avenue is lined with businesses and some residences. Previous designs of Bonifant Street would have provided only a single eastbound traffic lane. This could have resulted in delivery trucks stopping in the street and blocking traffic. Therefore, MTA revised the design of Bonifant Street as discussed above to provide a shared eastbound lane for the Purple Line and traffic, and a dedicated eastbound traffic/delivery lane. When trucks are stopped in the traffic/delivery lane, other traffic will be able to move around them using the shared Purple Line/traffic lane.
- **Catenary Poles Obstructing Sidewalks:** Since there is insufficient space for a median with a single catenary pole on Bonifant Street, there will be catenary poles on either side of the street. The sidewalks on Bonifant Street are very narrow in locations (see below) and are already obstructed in locations, though in most locations there is a space for street trees. The community is concerned about how catenary poles will obstruct the sidewalks. MTA has indicated that the catenary wires can be affixed to buildings, eliminating the need for poles, if property owners agree.

Station Access

The following issues should be addressed to ensure adequate pedestrian access to the east of the Silver Spring Transit Center:

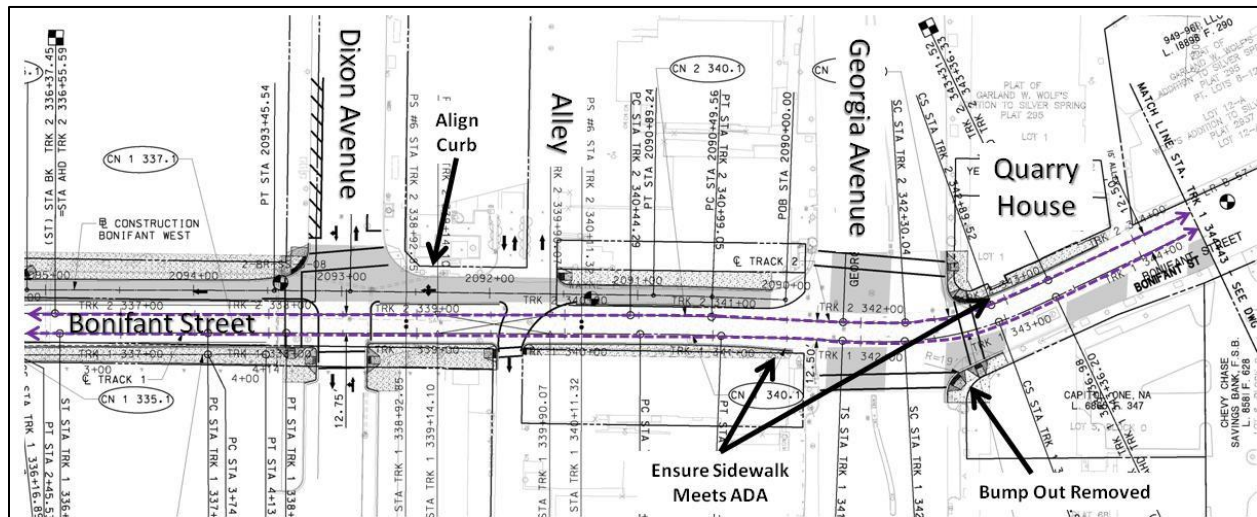
- ➡ *The ramp on the south side of the road is shared use path width, but the ramp directly across the street on the north side of "Bonifant Road" is smaller than shared use path width. Both ramps should be shared use path width and aligned. (MCDOT)*

Figure 1-28: Ripifant Street



- The sidewalk and curb on the north side of Bonifant Street between Dixon Avenue and the alley should be reconstructed so that they are in alignment with the sidewalks on either side. (MCDOT)
- The sidewalk on the south side of Bonifant Street between the alley and Georgia Avenue appears to be as narrow as two feet wide at the eastern end. Ensure that this sidewalk meets the ADA minimum. (MCDOT)
- The sidewalk bump out at the northeast corner of Georgia Avenue and Bonifant Street will be eliminated, narrowing the sidewalk to about three feet at the Quarry House entrance. Ensure that this sidewalk meets the ADA minimum (i.e. it has a clear width of at least 3 feet). (MCDOT, SHA)
- The sidewalk bump out at the southeast corner of Georgia Avenue and Bonifant Street would be eliminated, but this elimination appears unnecessary. The bump out should be retained to shorten the pedestrian crossing distance on the east leg of the intersection. (MCDOT, SHA)

Figure 1-29: Bonifant Street



SILVER SPRING LIBRARY STATION AREA

The Silver Spring Library Purple Line Station will be located at the southwest corner of Wayne Avenue and Fenton Street, underneath the Silver Spring Library. The station will have side platforms with access from multiple points. MTA forecasts that there will be 3,010 daily boardings at this station in 2040.

Figure 1-30: A View of the Silver Spring Library Station Looking to the Southwest



Source: Montgomery County Department of General Services

Master Plan Consistency

The Purple Line Functional Plan (2010) and the Silver Spring CBD Sector Plan (2000) are the relevant plans for this station area. This station is consistent with the master plan.

Station Access

Pedestrian access to the Silver Spring Library station will be “good” after completion of the Purple Line. However, one area of concern is the southwest corner of the intersection of Wayne Avenue and Fenton Street, where the Purple Line will form a fifth leg. Pedestrians should be directed away from the apex of this corner, as it is the entry and exit location of the Purple Line.

- *The sidewalk at the southwest corner should be constructed to go directly between the Wayne Avenue and Fenton Street ramps and be 12 feet wide to accommodate a high level of activity. The space between that sidewalk and the radius curb should be made of a non-traversable surface to discourage pedestrians entering this location. (MCDOT)*

An approved development at the southeast corner of Wayne Avenue and Fenton Street will improve the pedestrian area, if constructed. If the project is not constructed, MTA should make the following improvement:

- *The proposed sidewalk at the southeast corner of Wayne Avenue and Fenton Street should be constructed behind the ramps. While the current design meets ADA requirements, it is far from meeting ADA Best Practices, which should be followed at this major downtown intersection that is immediately adjacent to the station. (MCDOT)*

There are barriers between the platforms at the Silver Spring Library station limiting crossings to the corner of Wayne Avenue and Fenton Street and at the detectable warning surface (DWS) near Bonifant Street.

- *At the Silver Spring Library station, the area with the detectable warning surface should be widened and better integrated with the plaza at the corner of Bonifant Street and Fenton Streets. (MCDOT)*

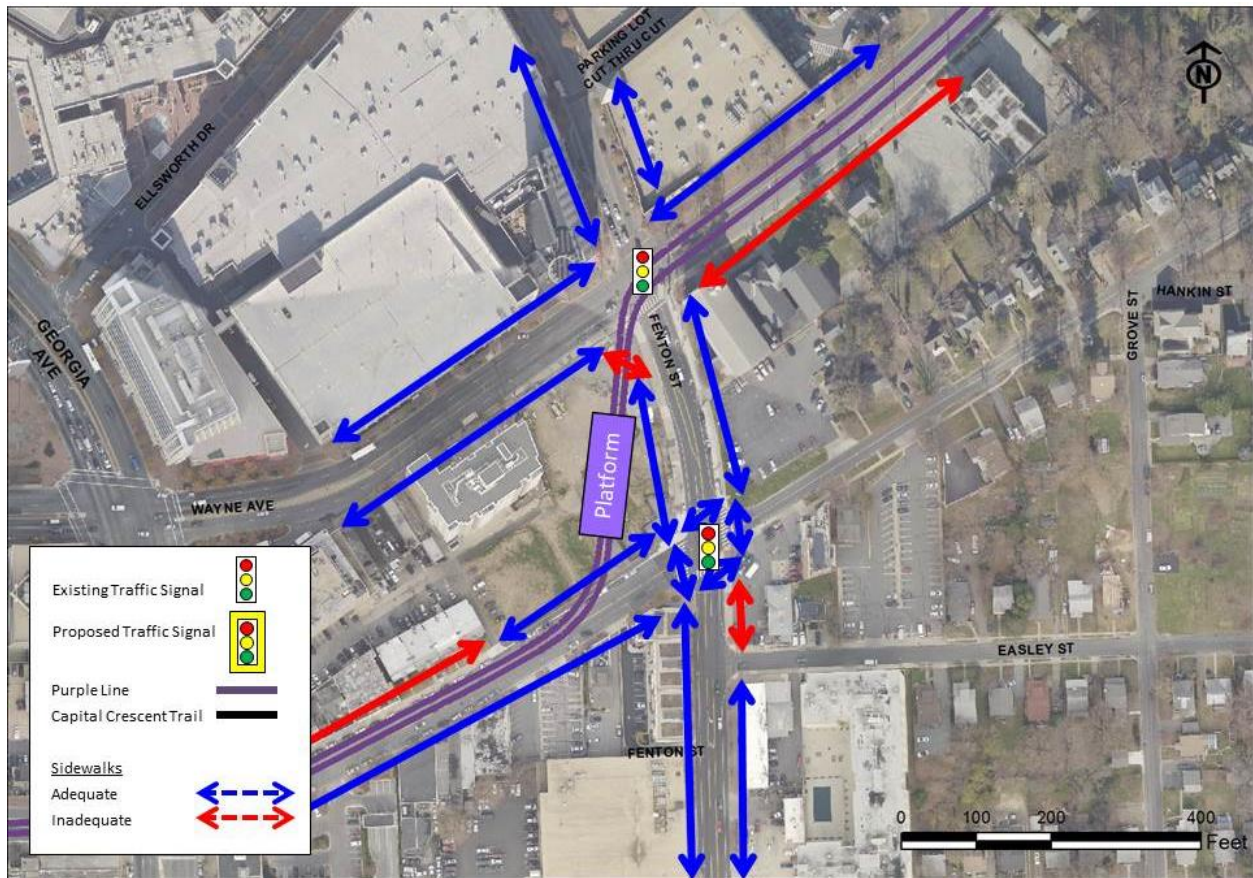
It appears that the proposed utility modules will constrict pedestrian circulation on the platforms and handicap ramps. These modules are 12-foot-tall, 8-inch-wide poles that contain light fixtures, trash cans, “next train” message boards, and speakers with cameras that are intended to facilitate emergency communications. In the worst location, the distance between the face of the pole and the edge of the platform would be six feet; the distance between the pole and the edge of the tactile paving would be less than four feet. In addition to being an annoyance to transit patrons, requiring them to squeeze through tight spaces may cause a safety problem given the drop-off at the platform edge. Since the library is under construction and the total envelope for the station is set, the platforms cannot be widened to the outside, but the usable space on the platform should be maximized.

Due to the layout of columns for the Silver Spring Library and the desire for the glass façade, attaching to the library was found to be not acceptable by Montgomery County Department of General Services. In addition, the library design team stated they were going to incorporate lighting in their design that met MTA’s criteria for stations, but after review of the criteria, it was determined meeting this criteria was beyond the library’s budget and WMATA’s lighting levels were used. A photometric study is being conducted by the library design team and additional lighting requirements will need to be determined for the Purple Line during Final Design. Therefore,

- *At the Silver Spring Library Station: 1) Confirm that the proposed utility modules will not create an unacceptable conflict and safety problem with pedestrian access, 2) Continue to coordinate with the library on the issue of lighting and investigate whether attaching fixtures to the building overhang at the station is a feasible option, and 3) Eliminate the utility modules/poles on the platform where pedestrian circulation is most constrained and relocate their operable features to other poles wherever possible.*

Bicycle access to the station will be provided by the Silver Spring Green Trail along Wayne Avenue.

Figure 1-31: Access to Silver Spring Library Station



Source: Montgomery Planning Department

WAYNE AVENUE: SILVER SPRING LIBRARY STATION TO DALE DRIVE STATION

Wayne Avenue is a gateway to downtown Silver Spring and is lined with residences that transition to the central business district. The Purple Line will operate in lanes shared with traffic. To improve the flow of traffic, MTA is proposing to add left turn lanes in several locations.

Master Plan Consistency

The Purple Line Functional Plan (2010) and the East Silver Spring Master Plan (2000) are the relevant plans for this area. This segment of the project is consistent with the master plan.

Community Concerns

The Wayne Avenue community has expressed several concerns about the Purple Line will bring (see Attachment N). These include:

- **Potential for Up-zoning:** The community is concerned that a station at Dale Drive will lead to up-zoning and additional density in a residential area. Planning staff has met with some of the leaders of the community to reassure them that there is no intent to up-zone the Dale Drive station area and that the Zoning Code Rewrite will not permit additional density around the station.
- **Noise and Visual Impacts of a Traction Power Substation:** MTA proposes to locate a substation on the north side of Wayne Avenue, between Cloverfield Road and Greenbrier Drive will have noise and visual impacts. The community has asked MTA to reduce the visibility of the substation by considering options such as putting it underground, locating it underneath the school parking lot, splitting it into two smaller substation, or locating it away from Wayne Avenue, among other things. MTA has evaluated each option and determined that they do not meet the operational requirements of the Purple Line. Staff agrees that undergrounding the substation would be preferable if feasible, but MTA has indicated that it would be subject to flooding. Furthermore, splitting the substation into two smaller facilities would result in facilities that are only slightly smaller than the proposed structure.
- **Visual Impact of Retaining Walls:** Dale Drive will be widened substantially to accommodate the station platform, the Silver Spring Green Trail, and new turn lanes. This will result in retaining walls as high as 13 feet in front of the school parking lot. Other areas of Wayne Avenue will have retaining walls as high as 6 feet.
- **Visual Impacts of Catenary Poles and Wires:** The catenary poles and wires will add to the visual clutter along Wayne Avenue. While overhead catenary systems are more acceptable to some in urban environments, in residential areas the impacts will be more apparent, especially when installed next to existing utility poles and wires.
- **Crime:** The community is concerned that a vacant substation building will lead to increased crime.
- **Property Values:** The community is concerned that the proximity of a substation will decrease adjacent residential property values.

Among the mitigation measures the community is seeking is the possibility of a small park on the substation site.

The community has met with MTA twice over the past 6 months but remains unsatisfied with the response they have received from MTA so far. Moving forward, MTA proposes to: 1) convene a small group of community leaders at a workshop to discuss ideas and options, with facilitation from the

Planning Department, and 2) hold a follow-up open house in the spring with the larger community to review the options with the community and receive further comment. MTA is hoping to schedule the small group meeting in the second half of March.

Station Access

Even assuming a desire to minimize right-of-way impacts, the sidewalk alignment along Wayne Avenue does not take advantage of areas where there is additional right-of-way to achieve an offset between the roadway and the sidewalk. In addition, sidewalks that now exist with a landscaped buffer are proposed to be moved to the curb even where the buffer can be retained. These sidewalks do not meet AASHTO recommendations for 8- to 10-foot-wide sidewalks along arterials outside the business district where the sidewalk is adjacent to the curb. In addition, narrow sidewalks that are adjacent to the curb will be blocked with plowed snow in the winter, making access to transit difficult or unsafe and impossible for handicapped persons.

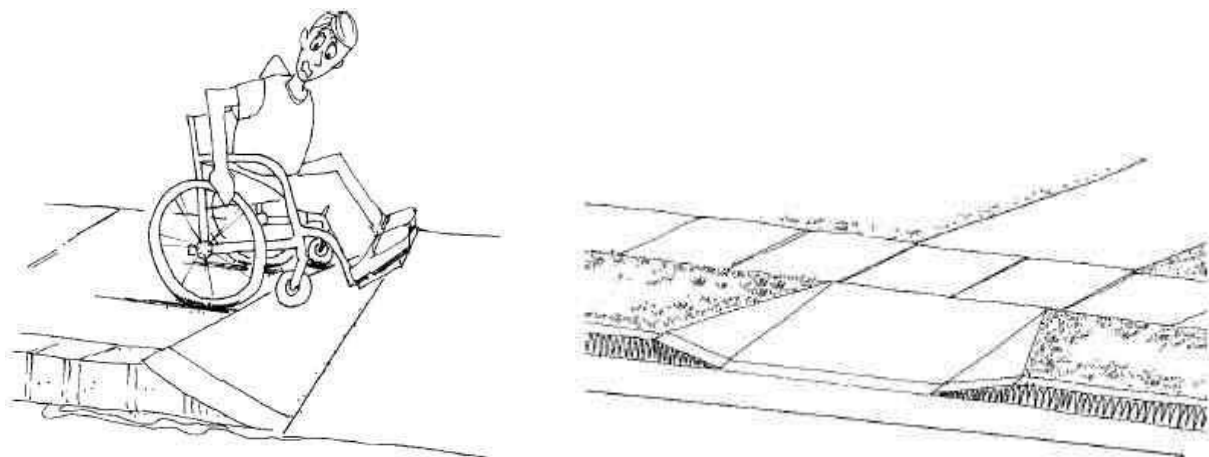
The resulting sidewalk appears to generally meet ADA requirements but does not attempt to meet ADA Best Practices and would be very difficult for a person in a wheelchair to use because it would require negotiating two ramps at each driveway. For example, the south side of the block between Fenton Street and Cedar Street would require negotiating eighteen ramps to traverse one block. Undersized sidewalks that are unfriendly to disabled persons are inadequate to serve rail transit stations. Figure 1-32 shows driveway ramps that interfere (left) and do not interfere (right side) with a pedestrian's path of travel.

- *The sidewalks on the south side of Wayne Avenue should be widened to 6 feet with landscaped buffers from traffic wherever the right-of-way is available to do so. (MCDOT)*

Furthermore, because the five-foot-wide sidewalk is proposed between the curb and edge of the right-of-way in many areas, less than five feet would be available where utility poles, catenary poles, fire hydrants, and signs are located in the sidewalk.

- *At the relocated entrance to the school parking lot on Wayne Avenue, offset the trail from the street by building a retaining wall. (MCDOT)*

Figure 1-32: Pedestrians Path of Travel at Driveway Ramps



Source: Federal Highway Administration

Community Design

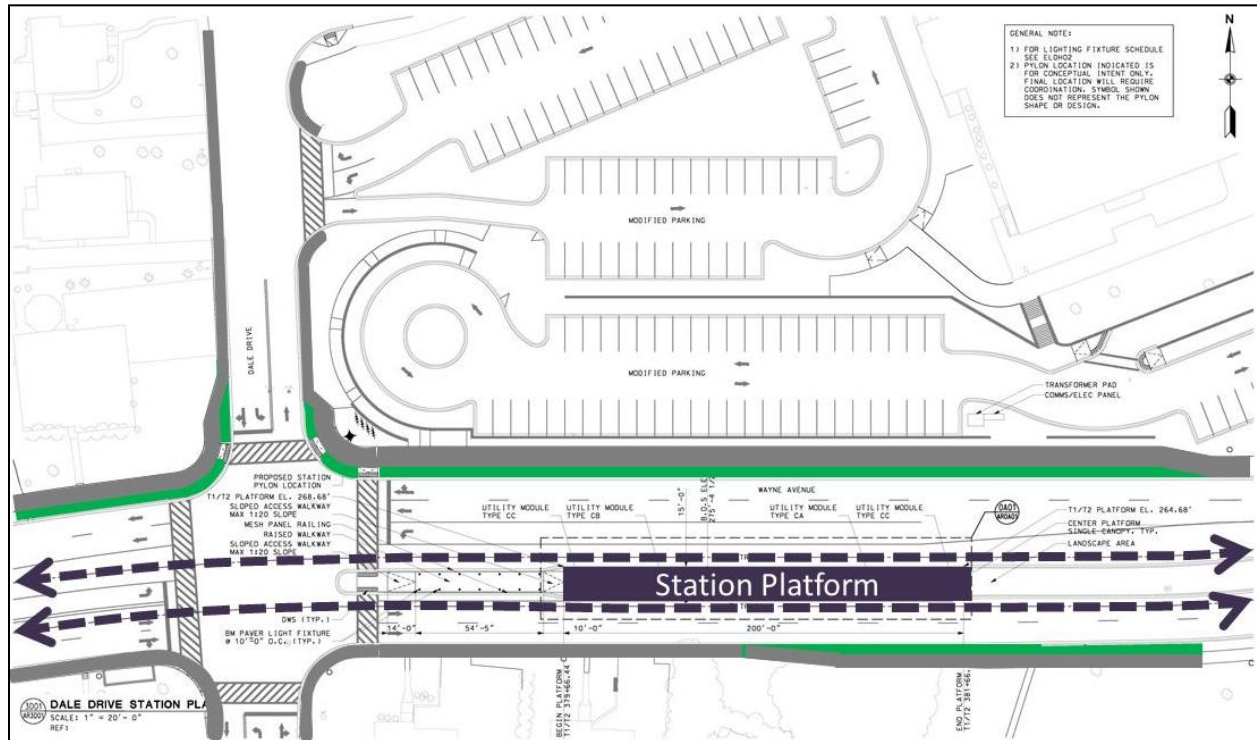
Wayne Avenue is a prominent residential street and a gateway to Silver Spring. To mitigate the impacts resulting from the Purple Line, MTA should develop a package of improvements for Wayne Avenue, including:

- *Design the Wayne Avenue substation housing to resemble a single-family home that fits in with the neighborhood.*
- *Underground existing utilities on Wayne Avenue. Street lights should be affixed to the catenary line overhead. Pedestrian lighting on either side of Wayne Avenue should use Washington Globe street light required by the Silver Spring Streetscape Standards. This same detail should be used for any other specified pedestrian scale lighting along the Purple line in Silver Spring, including the bridge over Sligo Creek. All specified fixtures, fastenings, and finishes should be submitted to M-NCPPC for review.*
- *At the school property the retaining wall ranges from 10 feet to 15 feet high. Consider terracing the wall as two 5-foot to 7-foot high walls, where space permits, in order to reduce impact of one large wall adjacent to sidewalk. Also consider using metal square-tube guardrail instead to lessen the impact of the retaining wall on pedestrians.*
- *On Wayne Avenue where a solid extension of the retaining wall is used as a vehicular guardrail, use metal square-tube guardrail instead to lessen the impact of the retaining wall for pedestrians.*

DALE DRIVE STATION AREA

The Dale Drive Purple Line Station is located in the median of Wayne Avenue, just to the east of Dale Drive. The station has a center platform. Passengers will enter and exit the station by walking in a median between the station and a crosswalk for the intersection. MTA forecasts that there will be 960 daily boardings at this station in 2040.

Figure 1-33: Dale Drive Station Plan



Master Plan Consistency

The Purple Line Functional Plan (2010) and the East Silver Spring Master Plan (2000) are the relevant plans for this station area.

The Purple Line Functional Plan (page 31) states that “the station is not included in the initial construction phase; the timing of implementation to be determined.” MTA has decided to construct the station with the rest of the project. Their position is that “In the past several years MTA has heard steadily growing community support for this station. The decision is based on a number of factors including: identical impacts with or without the station, and less disruption to the surrounding community if the station is built initially. Having a station built at Dale Drive with the rest of the project will provide convenience and improved access in the neighborhood. It will support activities at Silver Spring International Middle School, especially in light of the new auditorium, better serve the Silver Spring community, and help to reduce the need for and reliance on auto travel.”

Station Access

Pedestrian access to the Dale Drive station will be “fair” after completion of the Purple Line. MTA will construct the Silver Spring Green Trail on the north side of the road, with an 8-foot-path adjacent to a 5-

foot-buffer, but the sidewalks on the south side of the road will be 5 feet wide, with no buffer from the curb. The Silver Spring Green Trail will provide bicycle access to the Dale Drive station.

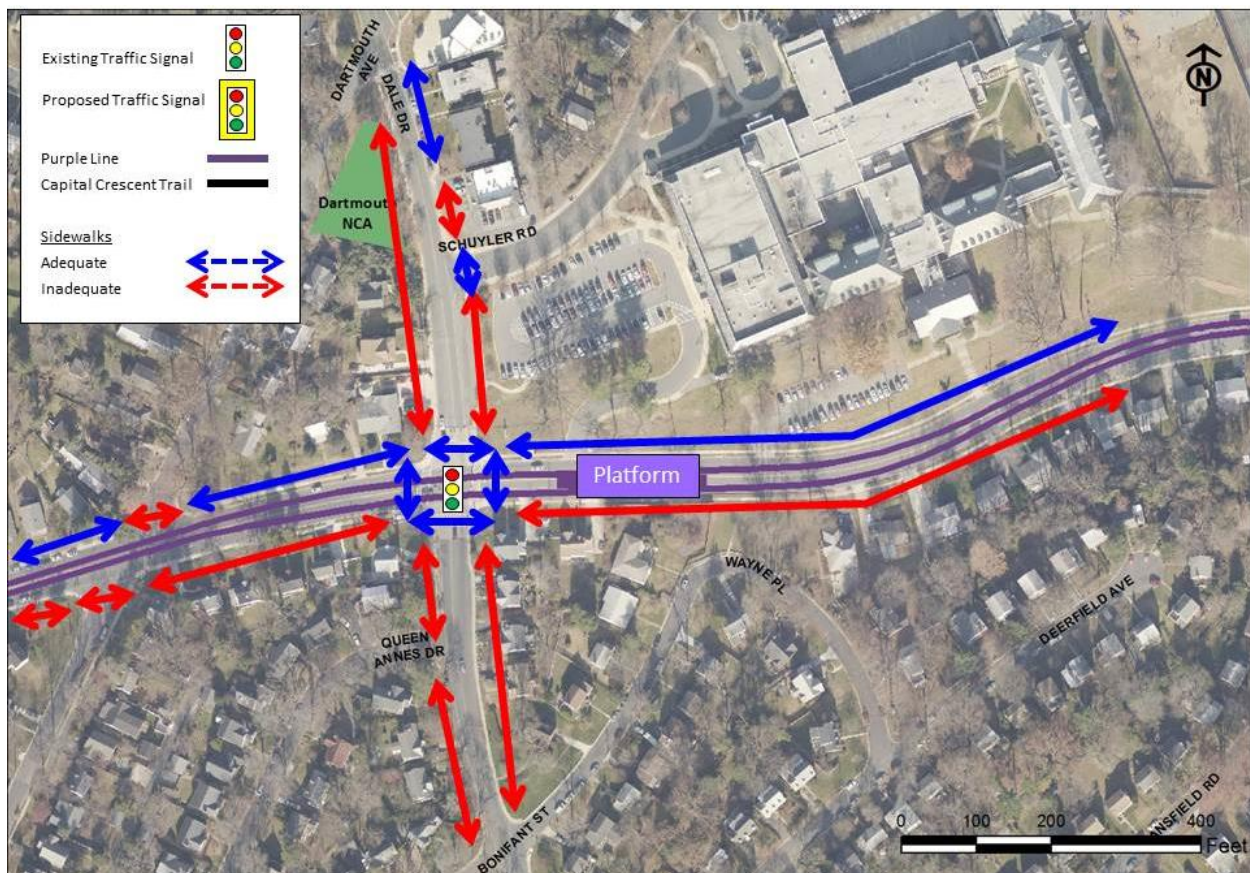
While the pedestrian space is at almost the bare minimum on the south side at Wayne Avenue, the intersection at Wayne Avenue and Dale Drive is proposed to add a turn lane in each direction.

- *The intersection of Wayne Avenue and Dale Drive should be changed to eliminate these turn lanes in favor of providing a dedicated transit lane in the eastbound direction, shifting the platform one lane to the north and creating a pedestrian refuge on the west leg of the intersection. (MCDOT, MTA)*

On the east side of Dale Drive, north of Wayne Avenue, MTA is proposing dual sidewalks along the school driveway. This is in addition to the sidewalks provided adjacent to Wayne Avenue.

- *The dual sidewalks along Dale Drive between Wayne Avenue and the school driveway should be combined into one wider sidewalk that is offset from the curb. The sidewalk north of the school driveway should be offset from the curb similar to what exists now but with a straighter alignment. (MCDOT)*

Figure 1-34: Access to Dale Drive Station



Source: Montgomery Planning Department

Community Design

At the Dale Drive Station make the following changes:

- ➡ *Provide bollards along the edge of the pedestrian refuge located between the crosswalk and the tracks to deter cars from deliberately or accidentally driving up onto the platform ramp. It will also serve as a physical cautionary before entering the track or street.*

MTA proposes a directional pylon at the northeast corner of Wayne Avenue and Dale Drive to inform passengers of the location of the Purple Line Station, but not at the southeast corner.

- ➡ *At the Dale Drive Station, provide a pylon at the southeast corner of the intersection of Wayne Avenue and Dale Drive.*

SLIGO CREEK STREAM VALLEY PARK

The Purple Line crosses the Sligo Creek Stream Valley Park on the Wayne Avenue Bridge, which will need to be relocated and reconstructed to accommodate the train tracks and engineering design for the project. Sligo Creek upstream, downstream and beneath the bridge will need to be re-aligned. In addition, the project proposes to retrofit an existing stormwater outfall that passes under and adjacent to park facilities including: fencing, trail connections and the running track for the Silver Spring International School. And finally, to accommodate the new design width for Wayne Avenue, the curb line on the north side will be pushed back 15 feet, thus necessitating the need to likewise push back the parking lot by 15 feet. As a result, MTA will need to reconstruct the parking lot as well. The following highlights some of the commitments from MTA in the *de minimis* letter for this park and additional review of the mandatory referral submission:

Figure 1-35: Sligo Creek Stream Valley Park



De minimis Commitments:

- *MTA will maintain access to recreational facilities, including the existing playground within Sligo Creek Stream Valley Park and Sligo Creek National Recreational Trail during construction.*
- *MTA is committed to designing an environmentally sensitive stream crossing when designing the Wayne Avenue bridge. The bridge will be designed to provide the least amount of environmental impact and improve hydraulics of Sligo Creek through the proposed project area. Sligo Creek will be realigned as part of the bridge replacement. A work group will be formed between M-NCPPC and MTA to further study and recommend appropriate design and mitigation for the stream realignment at Sligo Creek with the goal of ensuring long-term stability and reduce stress on the stream while considering the effects of widening the bridge to accommodate a wider Green Trail. The final recommended mitigation measure is contingent upon approval from the regulatory agencies.*
- *MTA has agreed to provide replacement parkland to mitigate permanent use of land at Sligo Creek Stream Valley Park. MTA will consolidate its mitigation for use of parkland in Montgomery County at a single site adjacent to New Hampshire Estates Neighborhood Park.*
- *MTA will minimize impacts on Sligo Creek Stream Valley Park by constructing retaining walls to limit the land area required for grading and vegetation removal, selectively clear trees in the work area to minimize tree loss, and stabilize temporarily disturbed stream banks.*
- *Specifically, MTA will work with M-NCPPC-Montgomery County Department of Parks as the project moves forward to identify significant or champion trees in the construction area. Trees to be preserved will be marked with protective fencing to avoid impacts or removal during construction. In addition, MTA would build its construction access road to the south of Wayne Avenue on an existing Washington Suburban Sanitation Commission (WSSC) utility easement to minimize tree removal.*
- *MTA will plant trees within Sligo Creek Stream Valley Park, where reasonable and feasible to mitigate tree loss that occurs as the result of the proposed project.*
- *Impacts to significant trees will be avoided within the park, where practicable.*
- *MTA will replace guardrail, signs, and other existing structures on park land it disturbs with new structures designed to match existing elements in the park.*
- *Upon completion of the Purple Line, approximately 0.04 acre of property currently owned by Montgomery County Department of Public Works abutting the park will be converted to green space.*

Mandatory Referral Comments:

- *The Purple Line and Silver Spring Green Trail construction will require the reconstruction of the existing Sligo Cabin parking lot to safely reestablish the maximum number of parking spaces practicable and interconnections with the playground, hiker/biker trail, and track area. All reconstructed areas shall meet SWM regulations and be ADA-compliant. Parks is willing to allow underground SWM below the reconstructed parking lot to help MTA provide better SWM treatment for the upstream drainage area.*
- *MTA will work with Parks to develop the full design of the Sligo Creek Trail along and across Wayne Avenue including signage, safe road crossing, and functional interconnections at each end. The current design shows a path width of 8'9" over the bridge, while M-NCPPC has expressed a goal of providing a width of up to 14-feet. The Interagency Work Group will review design options to with the goal of achieving a wider trail section along the Wayne Avenue bridge structure up to a maximum width of 14-feet. .*

- *The extents of construction required to functionally restore the parking lot at Sligo Cabin Park is unclear based on the drawings submitted with the MR. The drawings do indicate storm drain construction in close proximity to the existing track and associated features, and MTA will be required to functionally restore affected facilities to an acceptable condition by Parks (and MCPS).*
- *Design the retaining walls, bridge barriers, handrails, fences and guardrails at the Sligo Creek Stream Valley Park with aesthetic consideration for park and trail users, in consultation with M-NCPPC, Montgomery County Department of Parks*
- *Increase the amount of proposed landscaping for the Sligo Creek Stream Valley Park, in consultation with M-NCPPC, Montgomery County Department of Parks.*

MANCHESTER ROAD STATION AREA

The Manchester Road Purple Line Station is unique among the 21 stations in the corridor in that it is located in a tunnel on the south side of Wayne Avenue. Access to the station is at street-level off of Wayne Avenue (Figure 1-36) and by way of a stairway and elevators from Plymouth Street (Figure 1-37). MTA forecasts that there will be 1,910 daily boardings at this station in 2040.

Figure 1-36: Manchester Road Station Plan (west plaza at Wayne Avenue)



Source: Maryland Transit Administration

Figure 1-37: Manchester Road Station Plan (east plaza at Plymouth Street)



Source: Maryland Transit Administration

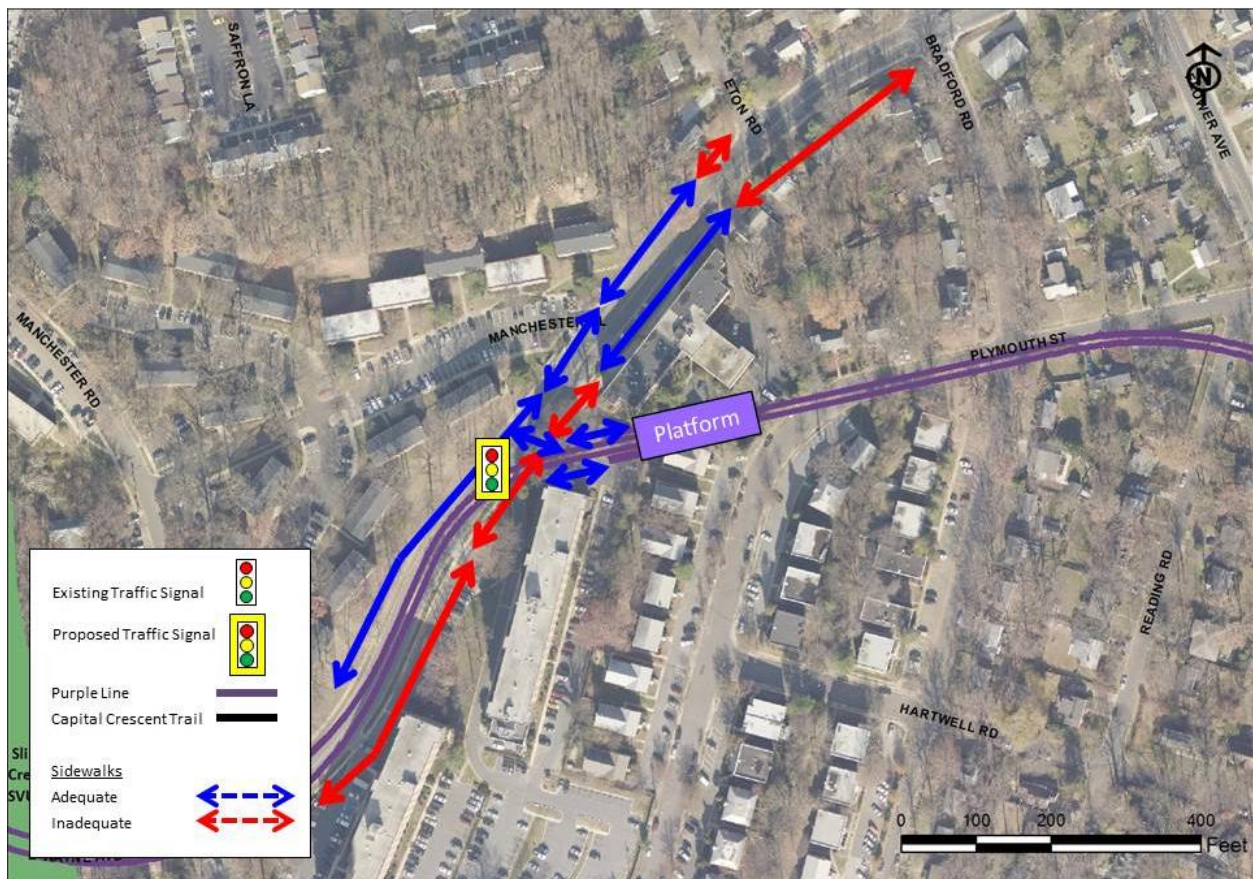
Master Plan Consistency

The Purple Line Functional Plan (2010) and the East Silver Spring Master Plan (2000) are the relevant plans for this station area. This station is consistent with the master plan.

Station Access

Pedestrian access to the Manchester Road station will be “fair” after completion of the Purple Line. While there are buffers between the sidewalks and the roadway today along Wayne Avenue, the Purple Line will eliminate the buffers on the east side of Wayne Avenue. One improvement is that the Purple Line will add a new traffic signal at the intersection of Wayne Avenue and Manchester Road and at the intersection of Wayne Avenue and where the Purple Line tracks leave the roadway. This will facilitate pedestrian crossings to the station.

Figure 1-38: Access to Manchester Place Station



Source: Montgomery Planning Department

However, on Wayne Avenue between Sligo Creek Parkway and Manchester Road, there is extra pavement that may lead to unwanted vehicular movements.

- On Wayne Avenue between Sligo Creek Parkway and Manchester Road, a raised island should be constructed between the two turn lanes to ensure that unwanted vehicular moves are not enabled and encouraged. (MCDOT)

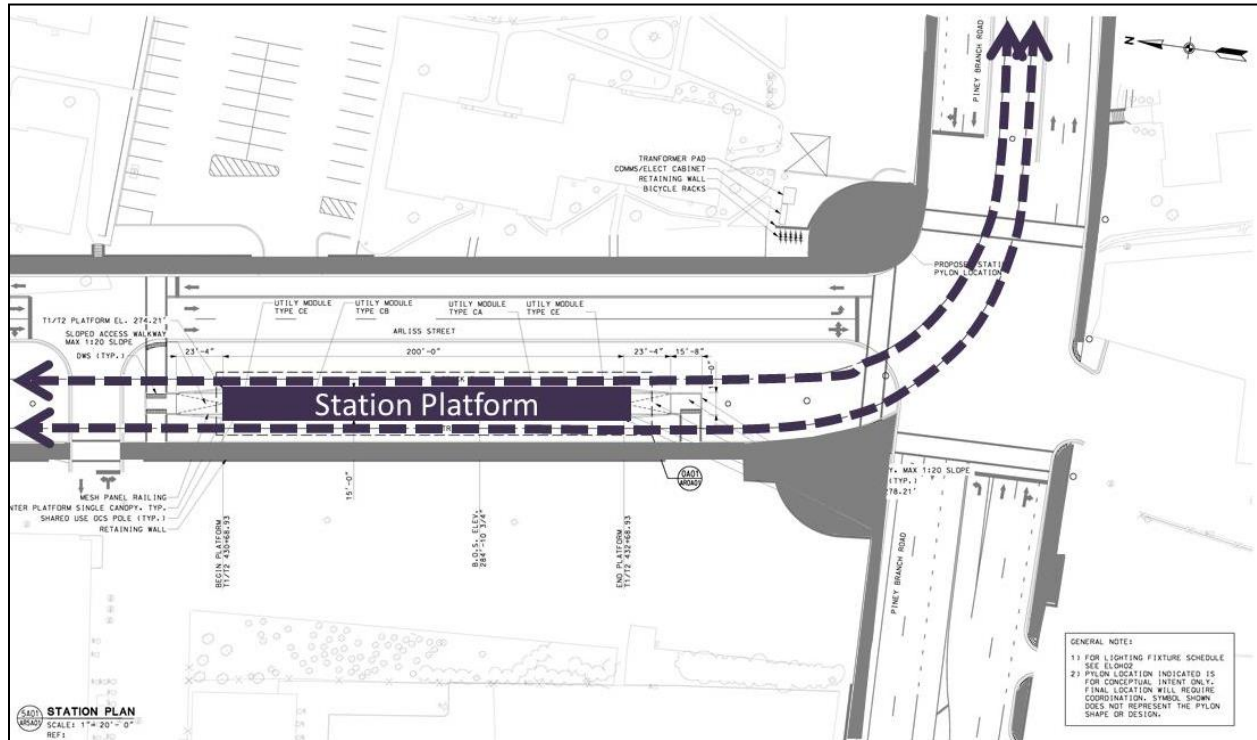
Bicycle access along Wayne Avenue east of Sligo Creek Parkway will be reduced as currently designed. It is dangerous for cyclists to cross embedded tracks at less than a 45 degree angle because their wheels can get caught in the tracks. Since the angle of the tracks is less than 45 degrees as the Purple Line tracks leave Wayne Avenue and enters the Manchester Road Station, MTA plans to provide a road sign for on-road bicycles traveling north on Wayne Ave to dismount their bikes. However, all roads should be bikeable.

- ➡ *Continue to explore ways for cyclists traveling on Wayne Avenue to cross the Purple Line tracks at a 60 to 90 degree angle.*

LONG BRANCH STATION AREA

The Long Branch Station will be located on the south side of Arliss Street, between Garland Avenue and Piney Branch Road. It will have a center platform. Access to the station is possible from both ends of the platform. MTA forecasts that there will be 890 daily boardings at this station in 2040.

Figure 1-39: Long Branch Station Plan



Master Plan Consistency

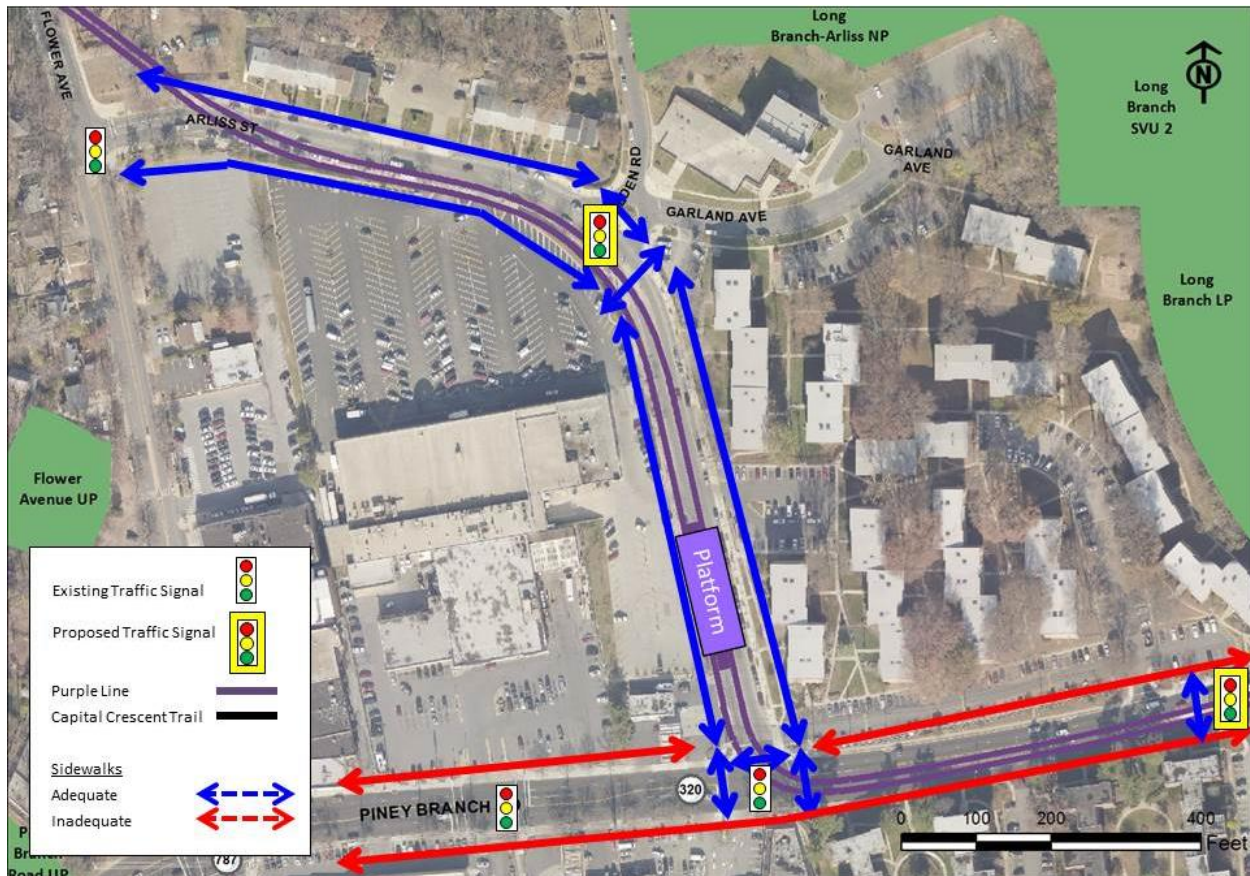
The Long Branch Sector Plan was approved in December 2013 by the Montgomery County Council and covers both the Long Branch and Piney Branch Road station areas. The location of the Long Branch Station was a collaborative effort between MTA, a developer of the adjacent “superblock,” and the Planning Board to find a way to reduce property impacts while accommodating a multimodal corridor. This station is largely consistent with the master plan, though it is unclear whether the project will be providing a traffic signal at the intersection of Arliss Street and Garland Avenue.

Station Access

Pedestrian access to the Long Branch station will be “good” after completion of the Purple Line. MTA will provide an 8-foot-wide sidewalk along Arliss Street, and will accommodate a future traffic signal on Arliss Street, just north of the Purple Line station. With redevelopment the sidewalks will be widened to 15-feet and bicycle lanes will be added. During the worksessions for the Long Branch Sector Plan, it was staff’s understanding that a traffic signal would be provided at the intersection of Arliss Street and Garland Avenue. While a crosswalk is currently shown at this location, a traffic signal is not.

- Provide a traffic signal at the intersection of Arliss Street and Garland Avenue to facilitate crossings between the “super block” and the Long Branch Library and Oak View Elementary School. Add a crosswalk across Arliss Street on the west side of the intersection. (MCDOT)

Figure 1-40: Access to Long Branch Station



Source: Montgomery Planning Department

Community Design

TPSS #7: The substation will be located at the northeast corner of Flower Avenue and Arliss Street on a residential property that will be displaced by the Plymouth tunnel. There will be a driveway off of Flower Avenue. The Sligo Branview Community Association would like this substation to be placed underground. MTA should:

- Evaluate ways to reduce the visual and noise impact of the substation at the corner of Flower Avenue and Arliss Street.

Additionally, there is a portal to the Plymouth Avenue tunnel located on Arliss Street. MTA is not planning to install physical barriers that prevent people from walking into the tunnel, but mentioned the possibility of alarms that would sound if someone enters the portal. MTA should:

- Continue to evaluate ways to reduce the likelihood that people will enter the Arliss Street portal.

Figure 1-41: Tunnel Portal on Arliss Street



PINEY BRANCH ROAD: LONG BRANCH STATION TO PINEY BRANCH ROAD STATION

Piney Branch Road is the “main street” of Long Branch. The Purple Line will operate in two dedicated lanes in the median of Piney Branch Road. Between Arliss Street and University Boulevard, left turns from Piney Branch Road to side streets will be prohibited except where a traffic signal and left turn lanes are provided. Bike lanes are provided on Piney Branch Road.

Master Plan Consistency

The Purple Line Functional Plan (page 37) recommends implementing sidewalks that are at least 6 feet wide on Piney Branch Road as part of the Purple Line project. The Long Branch Sector Plan recommends implementing a combined sidewalk and buffer area that is 15 feet wide as part of redevelopment.

MTA is proposing to provide 5-foot sidewalks with no buffers from the road, being reluctant to acquire additional right-of-way to widen the sidewalks. Five-foot-wide sidewalks adjacent to the curb are unacceptable in a station area, failing to meet not only the above master plan recommendations, but also AASHTO recommendations, ADA Best Practices, and even SHA’s own guidelines. Opportunities for improving the sidewalks where there is publicly owned land, such as the Long Branch Community Center, the Miles Glass property, Long Branch Local Park, and Long Branch Stream Valley Park should be made use of.. In addition, while the sidewalks as proposed are close to existing buildings, there appears to be additional space where the sidewalks could be widened, though this would require property acquisition. Therefore, SHA and MTA should continue to:

- *Construct the sidewalks on Piney Branch Road to be a minimum of 6 feet wide with a three-foot-wide landscaped offset or ten feet where adjacent to the curb, but evaluate where the sidewalks can be further widened. (SHA, MTA)*
- *Along the frontage of publicly owned property, construct the sidewalks to be 15-feet wide per the Long Branch Sector Plan Design Guidelines.*

One potential source of funding to improve the sidewalks beyond the immediate project area may be the Bicycle Pedestrian Priority Area Projects annual program that the Council’s T&E Committee recently endorsed, but that still needs to be approved by the full Council.

In addition, MTA should:

- *Extend the Piney Branch Road culvert at Long Branch to permit future construction of a 10-foot-wide sidewalk.*

The Long Branch Sector Plan recommends a robust network of new streets and extensions to existing streets to enhance local circulation. These streets intersect the Purple Line transitway and therefore the tracks are embedded in the following locations:

- Piney Branch Road & Arliss Street
- Piney Branch Road & Garland Avenue
- Piney Branch Road & Barron Street

Station Access

Pedestrian access along Piney Branch Road is “poor”. The sidewalks to the west of Arliss Street are obstructed with street lights, bus shelters, and utility poles. The proposed five-foot sidewalks that are

immediately adjacent to the curb in the Long Branch commercial area are inadequate. AASHTO recommends ten-foot sidewalks along arterials in business districts where the sidewalk is adjacent to the curb. The large parking lot on the north side of the road appears to have wide drive aisles that could be reduced in width to achieve additional space for sidewalks.

- ➡ *Increase the width of the sidewalks on the north side of Piney Branch Road, between the Flower Theater and Arliss Street, to 10 feet by reconfiguring the parking lot. (MTA, SHA)*

Pedestrian accommodation will be improved at the intersection of Piney Branch Road and Garland Avenue by means of a new traffic signal, which will facilitate crossings at a location with a history of pedestrian crashes.

The crosswalks crossing Piney Branch Road where it intersects Barron Street are skewed.

- ➡ *If the driveway to the Long Branch community center at the intersection of Piney Branch Road and Barron Street is realigned either before or during the construction of the Purple Line (either by MTA or another entity), the driveway design should locate the crosswalks on the east and west leg of the intersection at 90 degree angles from Piney Branch Road to reduce the pedestrian crossing distance. (SHA)*

MTA will be making important improvements to bicycle access on Piney Branch Road by providing bicycle lanes between Greenwood Avenue and University Boulevard. With redevelopment these bike lanes can be extended to Flower Avenue.

LONG BRANCH STREAM VALLEY PARK (SOUTH OF PINEY BRANCH ROAD)

The Purple Line crosses the Long Branch Stream Valley Park on the Piney Branch Road bridge, which will not need to be rebuilt to accommodate the train tracks. MTA proposed several improvements at this location, however, to increase the capacity of stormwater flow, including enlarging and lengthening the existing stream culvert under the road. During the FEIS review, Parks staff worked with MTA to identify more environmentally sensitive stormwater management techniques appropriate for this stream. In follow-up meetings since then, MTA has agreed to create a work group to study the issue more closely and identify appropriate designs that meet the needs of the project while also improving water quality and fish habitat. The following highlights some of the commitments from MTA in the *de minimis* letter for this park and additional review of the mandatory referral submission:.

De minimis Commitments:

- *MTA will maintain access to the Long Branch Trail during construction.*
- *In coordination with M-NCPPC, Montgomery County Department of Parks, MTA has agreed to provide replacement parkland to mitigate for the permanent use of land at Long Branch Stream Valley Park. MTA will consolidate its mitigation for permanent use of parkland in Montgomery County at a single site adjacent to New Hampshire Estates Neighborhood Park.*
- *Invasive plant species will be removed in the immediate project area. Areas that are cleared as a result of invasive species removal would be replanted with native vegetation.*
- *Impacts to significant trees will be avoided within the park, where reasonably feasible.*

Mandatory Referral Comments:

- *The Interagency Work Group will further study and recommend appropriate designs for modification of the existing stream crossing under Piney Branch Road with the goal of creating an environmentally sensitive stream crossing and provide upstream and downstream channel improvements to establish long term stream stability and fish passage.*
- *MTA will need to provide a non-native invasive (NNI) management plan for long-term eradication.*

LONG BRANCH LOCAL PARK (NORTH OF PINEY BRANCH ROAD)

The Purple Line passes by the Long Branch Local Park on Piney Branch Road; the Purple Line will run down the median of the road, restricting left turns into and from the park. Under MTA's initial designs, access to the park would have been right-in, right-out only, and park patrons would have been expected to make u-turns at Arliss Street (to travel east) and at University Boulevard (to travel west). MTA felt this solution was reasonable, but both Planning staff and Parks staff disagreed. During the Long Branch Sector Plan process, numerous options were studied to alleviate this problem. At about the same time, the Miles Glass Company property went on the market for sale. This property includes frontage at the Barron Street signal. To accommodate left turns out of the park onto Piney Branch Road, staff agreed that the Miles Glass Company property should be purchased, the building torn down, and the park's driveway entrance realigned to the Barron Street signal. Both the Planning Board and County Council agreed, the property was purchased, and plans are now underway to realign the driveway. M-NCPPC will demolish the building and clear the site prior to Purple Line construction, and MTA will construct the new driveway to the Barron Street signal.

Figure 1-42: Long Branch Local Park



There is no *de minimis* letter for this park; however wording in Section 4(f) is included as follows, which MTA expects to be mirrored in the ROD. MTA is committed to improving access to the park.

- *As currently designed and as previously mentioned, the Preferred Alternative will result in impacts to the access to Long Branch Community Center. After extensive coordination between MTA and M-NCPPC–Montgomery County Department of Parks, it was determined that MTA will design and construct a new access to Long Branch Community Center. The new access road and*

parallel trail will tie in directly across from Barron Street, through the existing site of the Miles Glass Company building, which was recently purchased by M NCPPC–Montgomery County Department of Parks. M NCPPC–Montgomery County Department of Parks will be responsible for the demolition and removal of materials from the existing site.

- ➡ *MTA will design sidewalk improvements along Piney Branch Road to meet ADA requirements. The headwalls and wingwalls associated with the proposed culvert extension and new pipe would be raised to accommodate future sidewalk widening to 10 feet without impacting the need for additional culvert extension.*

Mandatory Referral Comments:

- ➡ *MTA will close the old parking lot entrance along Piney Branch Road and construct a new park entrance to align with the Barron Street intersection, and functionally interconnect to the existing parking lot, including entrance sign relocation, pavement removal, and appropriate landscape planting. Stormwater treatment will be provided for the new park entrance and Long Branch Trail extension.*
- ➡ *MTA will reestablish the Long Branch Trail to cross Piney Branch Road at Barron Street and parallel the new park entrance road into the Long Branch site, including signage, safe road crossing, and functional interconnections at each end of trail.*
- ➡ *One issue that is going to require interagency cooperation to resolve involves the left turn into the park.. While the new driveway entrance into the park permits left turns out of the park, there are no provisions at this time to permit left-turns in. To accommodate left turns in, one of two things will need to happen: 1) MTA and SHA will provide a dedicated left-turn lane from east-bound Piney Branch Road; or 2) MTA and SHA will allow left-turns into the park from the left travel lane. Solution #1 is unlikely due to space constraints along Piney Branch Road; other roadway/pedestrian/park trail improvements will need any new space gained along this road as part of redevelopment. Solution #2 continues to be studied by MTA. It is possible that left-turns into the park could be permitted during specific peak-periods (such as swim meets, community events, etc.).*

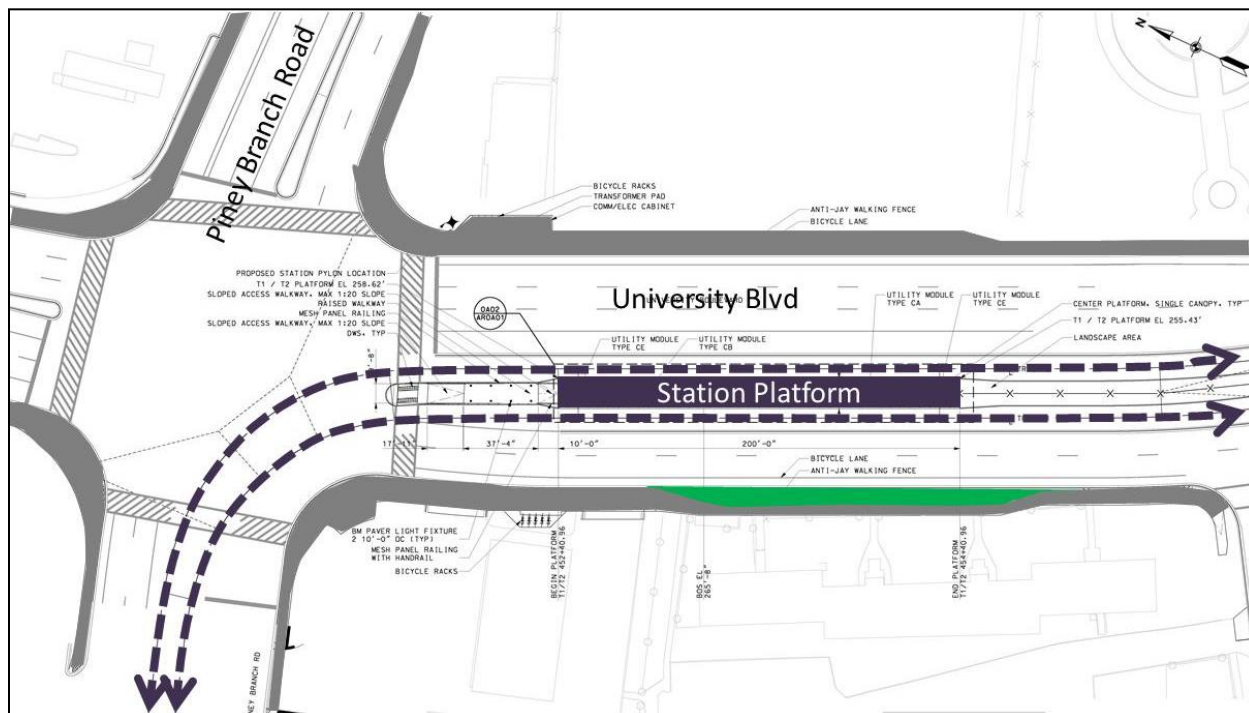
Figure 1-43: Extension of Existing Culvert



PINEY BRANCH ROAD STATION AREA

Piney Branch Road Station is located in the median of University Boulevard, just south of the intersection with Piney Branch Road. It will have a center platform. Access is via a crosswalk on the southern leg of the intersection. MTA forecasts that there will be 1,240 daily boardings at this station in 2040.

Figure 1-44: Piney Branch Road Station Area



Master Plan Consistency

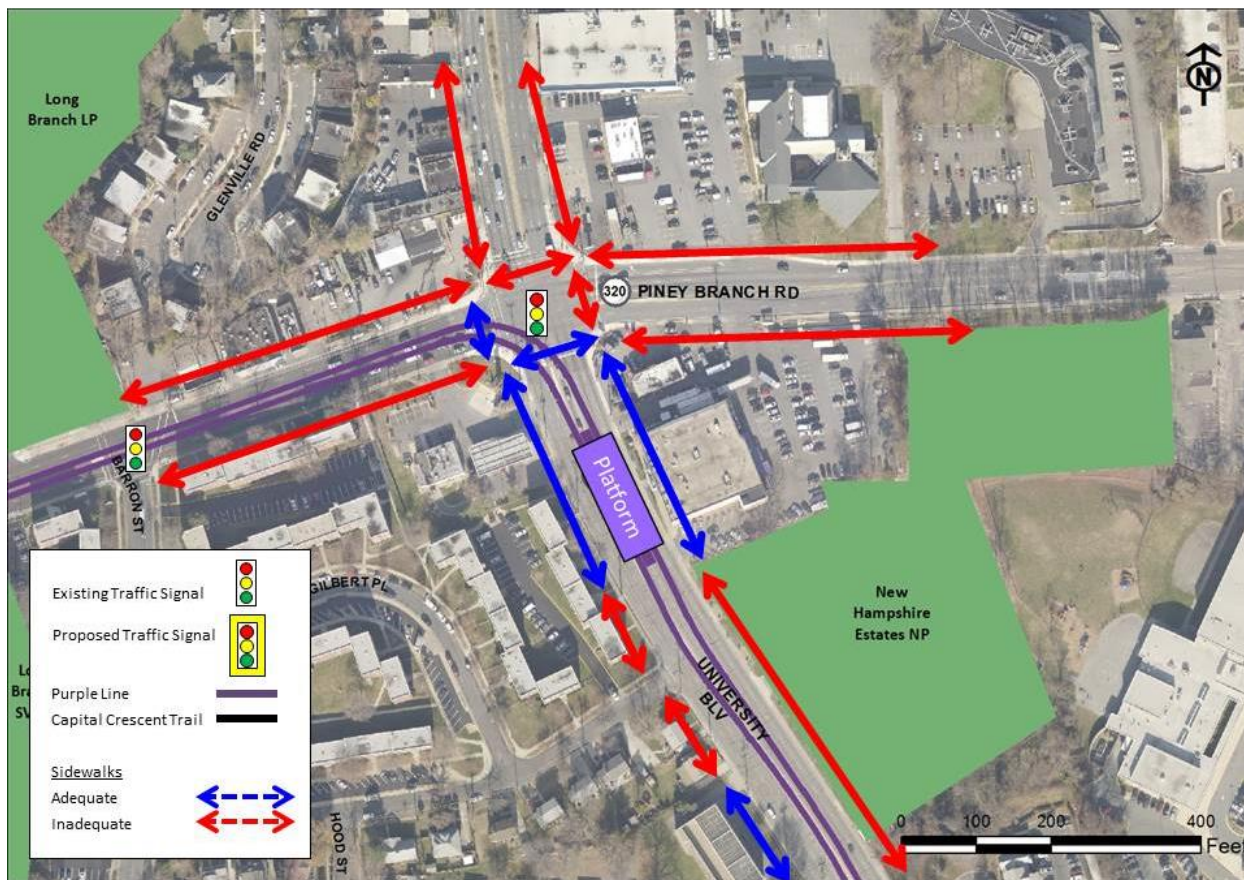
The Long Branch Sector Plan was approved in December 2013 by the Montgomery County Council and covers both the Long Branch and Piney Branch Road station areas.

The Long Branch Sector Plan recommends a new traffic signal, a future shared use path (SP-79) along Gilbert Street and Gilbert Street Extended, and access to the southern end of the Piney Branch Station at the intersection of Gilbert Street and University Boulevard. At this time the State Highway Administration has not agreed to provide a traffic signal at this location, but that should not forestall planning for a future where a traffic signal is permitted.

Station Access

Pedestrian access to the Piney Branch Road station will be “poor” after completion of the Purple Line. The sidewalks along Piney Branch Road will only be 5 feet wide adjacent to the curb. On University Boulevard, MTA is proposing 8-foot-wide sidewalks with buffers from the curb near the station, but to the south of the station the sidewalks are only 5 feet wide adjacent to the curb.

Figure 1-45: Access to Piney Branch Station



Source: Montgomery Planning Department

As noted above there is no direct access from Gilbert Street to the southern end of the Purple Line station, so pedestrians will have to walk about two minutes out of their way to access the platform, significantly decreasing the catchment area of the station. At this time the State Highway Administration has not agreed to provide a traffic signal at this location, but that should not forestall planning for a future access point when a traffic signal is permitted. Furthermore, while a traffic signal may not meet traditional warrants, and while left turning traffic from University Boulevard to Piney Branch Road may back up beyond a signal at Gilbert Street, it must be recognized that the introduction of a rail station in University Boulevard changes the nature of the area from one largely focused on automobiles to one equally focused on pedestrians. Therefore, a traffic signal at the intersection of University Boulevard and Gilbert Street should be considered for several reasons:

- **Improved station access:** The proposed Piney Branch Road station is one of only two Purple Line stations along the entire 16 mile alignment that have a single-ended platform. Providing a traffic signal at Gilbert Street would permit access to the station from the south side, reducing travel time by about 2 minutes for riders traveling to and from points to the south of the station and would reduce the number of pedestrian conflicts at Piney Branch Road, potentially improving its operation.
- **Safety:** A new signal would promote slower vehicular speeds from all directions of travel in the immediate vicinity of the intersection. This is particularly important because of the significant

volumes of pedestrians that are expected to cross University Boulevard. The lower traffic volumes at this tee intersection make it a safer place for pedestrians to cross if a signal is installed. An assessment of the appropriate speed limits should be conducted in the vicinity of the Piney Branch Road station.

- Enhanced bikeway network: The traffic signal is an important component of an off-road bikeway connecting the Sligo Creek Trail and the Long Branch Trail to the Northwest Branch Trail. The shared use path would travel along Piney Branch Road, Gilbert Street Extended, Barron Street, and Domer Avenue.
- Context: The Long Branch area today has considerable pedestrian activity. With the additional pedestrian activity generated by the Piney Branch Road Purple Line station and the density proposed in the Long Branch Sector Plan, University Boulevard will be transformed into a more urban area. MTA's plans to convert two existing traffic lanes to a transitway shows a significant advancement in balancing the needs of all roadway users, and this approach can also be applied to signalized intersection spacing in urban environments. The spacing between Piney Branch Road and Gilbert Street is about 425 feet, similar to many other examples within a short distance from Gilbert Street and other areas in Montgomery County where the focus is more on providing adequate pedestrian access, local circulation, and access to businesses than it is on higher speed through-travel. Examples are shown in Figure 1-46 include:

MD 193 (University Boulevard)

- Carroll Avenue to Merrimac Drive (planned): 500 feet
- Merrimac Drive (planned) to Lebanon Street (planned): 600 feet
- Lebanon St (planned) to Shopping Center driveway (planned): 200 feet
- Shopping Center driveway (planned) to Takoma / Langley Transit Center driveway : 225 feet
- Takoma / Langley Transit Center driveway to New Hampshire Avenue: 400 feet

MD 320 (Piney Branch Road)

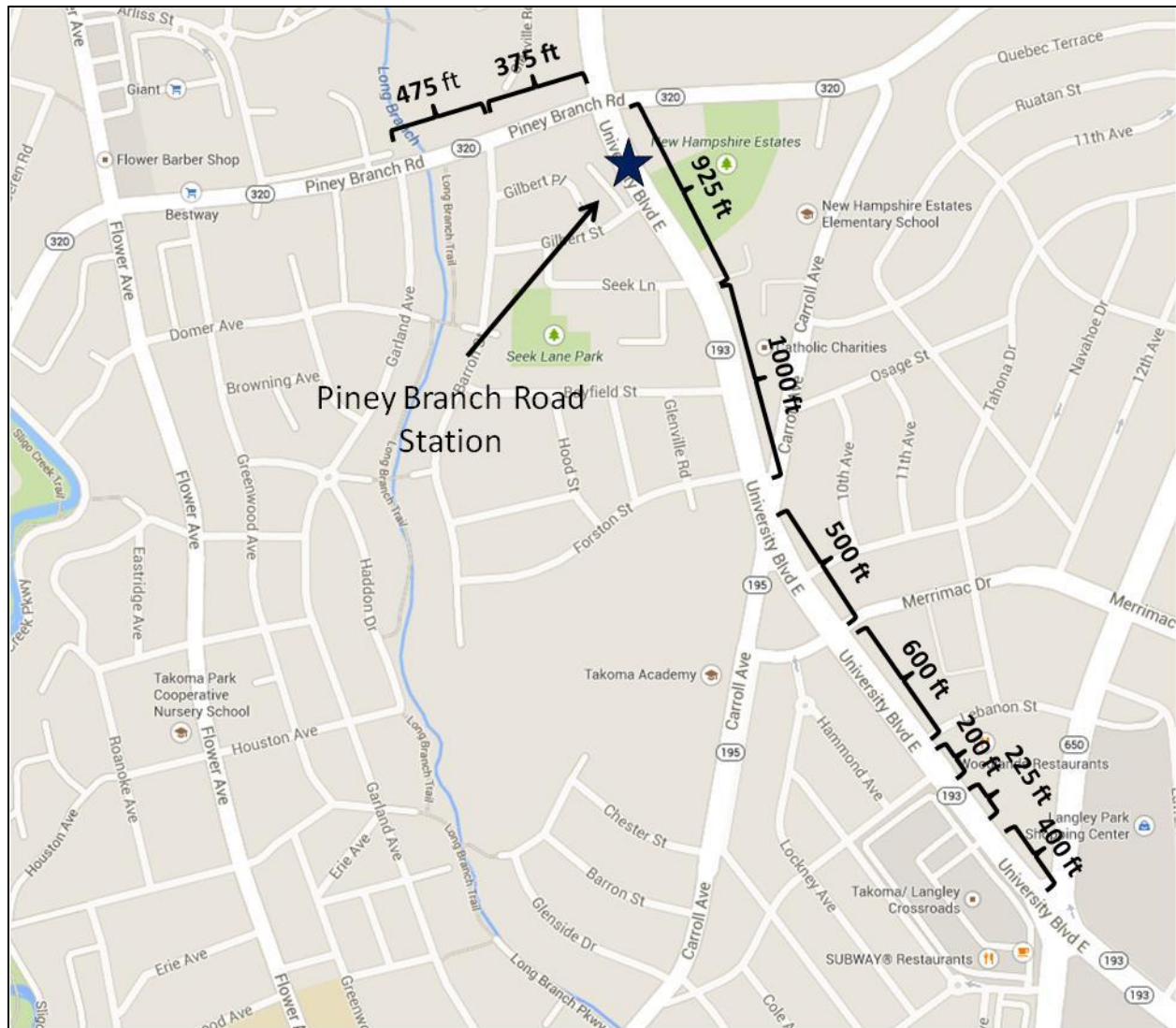
- University Boulevard to Barron St: 475 feet
- Barron St to Garland St: 375 feet

Therefore,

- | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">➡ <i>Provide a traffic signal at the intersection of University Boulevard and Gilbert Street. (SHA)</i>➡ <i>Include design allowances in the RFP to enable access to the station from Gilbert Street, via a walkway up the middle of University Boulevard, once the intersection is signalized. (MTA)</i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

MTA will be making substantial improvements to bicycle access by providing bicycle lanes on Piney Branch Road between Arliss Street and University Boulevard and on University Boulevard south of Piney Branch Road.

Figure 1-46: Purple Line's Proposed Traffic Signal Spacing in Long Branch and Takoma / Langley Crossroads



Source: Montgomery Planning Department

Community Design

TPSS #8: A substation will be located at the southwest corner of University Boulevard and Seek Lane on a residential property displaced by the Purple Line. There will be a driveway off of University Boulevard.

UNIVERSITY BOULEVARD: PINEY BRANCH ROAD STATION TO TAKOMA LANGLEY TRANSIT CENTER STATION

University Boulevard will be a four lane road, with a two-way transitway for the Purple Line in the median. Bike lanes are provided.

Figure 1-47: University Boulevard



Master Plan Consistency

While previous master plans (including the Purple Line Functional Plan) recommended a six-lane road with a two-way transitway in the median, in 2013 MTA proposed reducing the number of through lanes from six to four. This is a substantial improvement on previous plans and was included in the Long Branch Sector Plan. This lane configuration was extended to New Hampshire Avenue in the Countywide Transit Corridors Functional Master Plan.

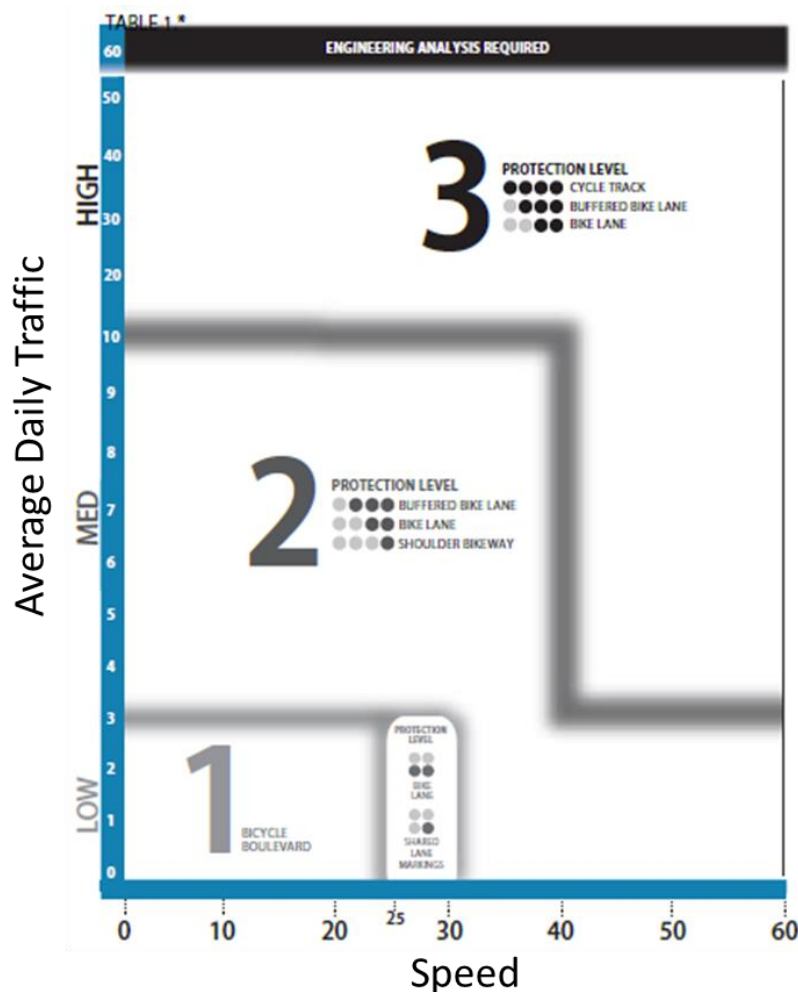
The Long Branch Sector Plan and the Takoma / Langley Crossroads Sector Plan (page 44) recommend an “Interim” condition to be constructed as part of the Purple Line and an “Ultimate” condition to be constructed with redevelopment. The “Interim” condition recommends constructing a 5-foot-bicycle lane, curb, and an 8-foot-shared use path. Upon redevelopment, the “Ultimate” condition recommends converting the 8-foot shared use path to an 8-foot-cycle track and adding a 15-foot-landscape buffer and sidewalk space.

The recommendation for bicycle lanes adjacent to cycle tracks was a peculiar result of Takoma/Langley Crossroads Sector Plan. Planning Department staff originally recommended cycle tracks along University Boulevard instead of bicycle lanes, because cycle tracks provide a greater level of protection for cyclists and will encourage more people to bicycle on a busy state highway. However, SHA’s policy is that bicycle lanes should be added to all state highways that are reconstructed, and there is no flexibility for better solutions. As a compromise, a “dual bikeway” with both bicycle lanes and cycle tracks was included on

University Boulevard, between New Hampshire Avenue and Carroll Avenue in the Takoma Langley Crossroads Sector Plan, and extended north to Piney Branch Road as part of the Long Branch Sector Plan. Due to its spatial requirements this recommendation will be difficult to implement. SHA is reconsidering its position on bicycle lanes, as evidenced by the Maryland Twenty-Year Pedestrian and Bicycle Plan finalized in January 2014. An objective of the plan (page 32) is to “Encourage the use of existing processes to implement pilot projects on State roadways to test innovative design treatments such as cycle tracks, colored bike lanes, and new pedestrian crossing treatments, following a context sensitive design approach.” Since cycle tracks have a minimum 5-foot width, with a minimum 3-foot-wide buffer, and bike lanes are 5 feet wide, 3 additional feet are needed for cycle tracks on each side of the road if the state finds that cycle tracks can be substituted for bicycle lanes.

Cycle tracks are a superior facility to bike lanes and accommodate all or nearly all of the cyclists that would use bike lanes on University Boulevard, plus many people that would be deterred from using bike lanes on a busy station highway. Nomographs, such as the one developed for Washington County, Oregon, depict the types of bikeways that are appropriate at various traffic volume and traffic speed thresholds (Figure 1-48).

Figure 1-48: Appropriate Bicycle Facilities at Various Traffic Volume and Traffic Speed Thresholds



Source: Washington County Bicycle Design Toolkit

The volume of traffic on University Boulevard indicates that it is a Category 3. Cycle tracks, buffered bike lanes, or bike lanes are all appropriate, but cycle tracks offer the highest protection level (and therefore would attract the greatest number of cyclists), while bike lanes over the lowest protection level (and therefore may not attract many cyclists).

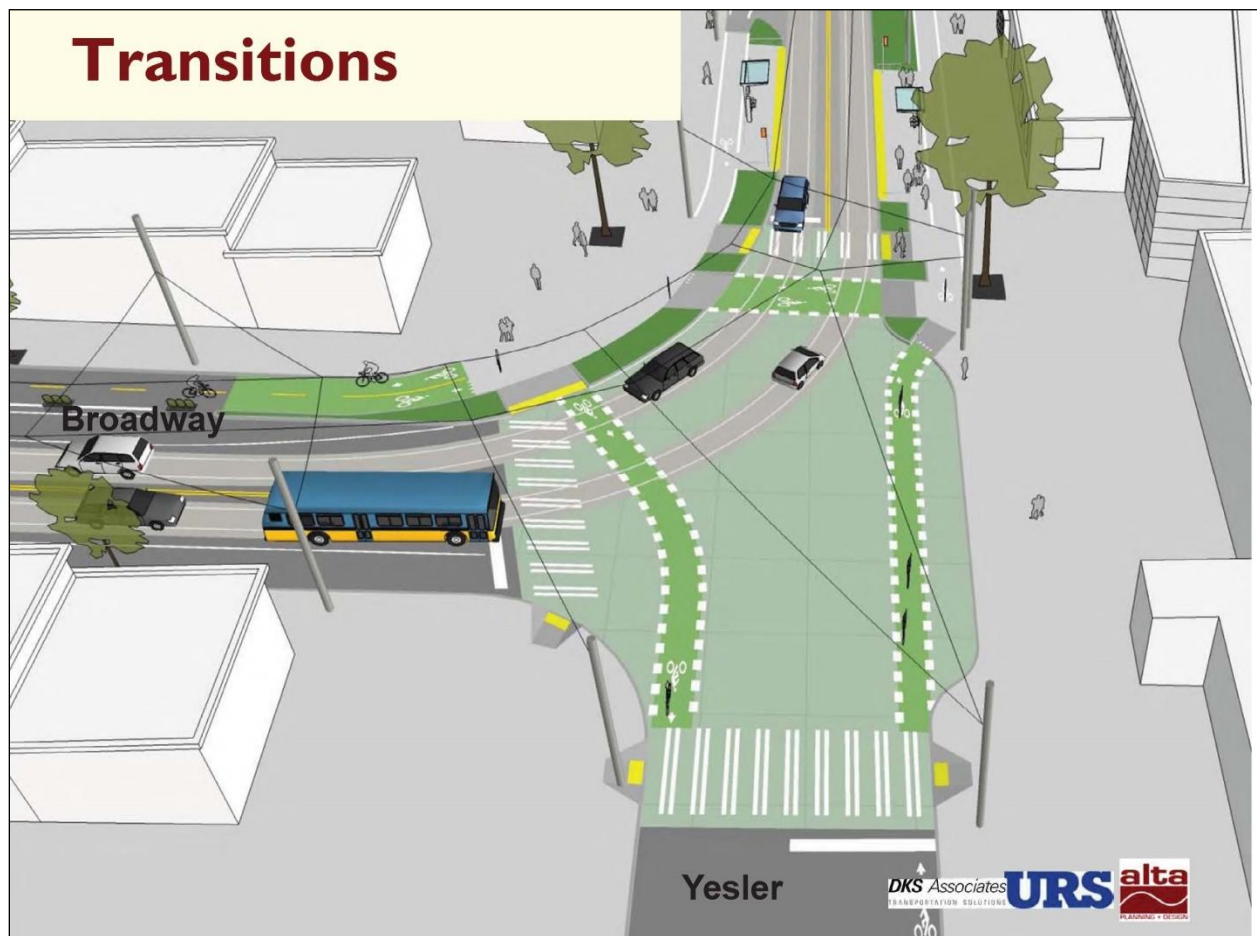
Therefore, this project should:

- ➡ *Construct cycle tracks (or buffered bike lanes) on University Boulevard where right-of-way is available, and transition from the cycle tracks to regular bicycle lanes where the right-of-way is constrained. However, if there is not agreement to construct cycle tracks (or buffered bike lanes), provide 8-foot-shared use paths along both sides of University Boulevard where right-of-way is available or property acquisitions occur as recommended in the Long Branch Sector Plan and Takoma / Langley Crossroads Sector Plan. Where sufficient space is not available, the shared use path should transition into a sidewalk. (SHA, MTA)*

While it is not ideal to construct a bikeway piecemeal, this is a typical practice in Montgomery County because it reduces future cost and disruption and signals the intent to develop a bikeway.

Figure 1-49 shows an example of bike lanes transitioning the cycle tracks.

Figure 1-49: Transition from Bicycle Lanes to Cycle Tracks



MTA will also be installing several structures along University Boulevard, including traction power substations, signal boxes, and parking lots. These structures should not be constructed within the area designated for bikeway and streetscape improvements.

- ➡ *On both sides of University Boulevard grade and keep clear of structures a 23-foot-wide area adjacent to the curb where right-of-way is available or property acquisitions occur to accommodate the 8-foot-wide cycle track and a 15-foot sidewalk area. If SHA agrees to permit the construction of cycle tracks, the clear width can be reduced to 18 feet.*

The Countywide Transit Corridors Functional Master Plan (page 55) recommends providing two dedicated lanes for bus rapid transit (BRT) on University Boulevard, without adding lanes to the road. Though not explicitly stated, the recommendation is for BRT to share the Purple Line transitway. One impediment to sharing the transitway is that the Purple Line as currently planned will run on “ballast” tracks that are raised above the surface of the street. For this to be a shared transitway, the tracks will have to be “embedded” in the transitway. MTA recently prepared a white paper evaluating the constraints with embedding the tracks on University Boulevard. This paper is still draft, but identifies several potential impacts of embedding the tracks, including:

- Cost of approximately \$16 million
- Additional right-of-way requirements, since the space a busway requires may be greater than the space light rail requires.
- Potential operational impacts on the Purple Line, which could affect travel time, costs, and ridership

Therefore, MTA does not support a shared Purple Line/BRT transitway on University Boulevard, and has not agreed to embed the tracks. MCDOT strongly supports embedding the tracks.

This is a costly recommendation that could negatively impact the Purple Line, and therefore needs a more detailed assessment than is provided in the white paper. Specifically,

- Does MCDOT intend to use the transitway for both BRT and local bus service, or just BRT? The greater the number of buses using the transitway and the number of bus stops, the greater the potential impacts to the Purple Line.
- Is the spacing between the northbound and southbound Purple Line tracks sufficient? We don’t want to embed the tracks to find out later that they have to be ripped up, since the spacing between them is insufficient to accommodate buses. How much additional right-of-way may be required and would this require a reassessment of the Record of Decision and a potential supplemental Environmental Impacts Statement as the white paper states?
- What is the impact on Purple Line and other transit ridership and travel time? Since the Countywide Transit Corridors Functional Master Plan assumes that both the Purple Line and BRT would share the same lanes, the exclusion of BRT from the transitway would force this service to use the general traffic lanes.
- What is the overall travel time impact for Purple Line passengers and other transit passengers?

As the “guardians” of the master plan, it is the responsibility of the Planning Department to advocate for master plan consistency unless there is a safety concern or additional information makes the recommendation undesirable. MTA has expressed their concern about sharing the Purple Line transitway with buses. Planning staff appreciates MTA’s concerns but do not believe their white paper sufficiently evaluates the advantages and disadvantages at this time. The benefits of sharing the

transitway would have to outweigh the impacts to the Purple Line to support this recommendation, but since a definitive case has not yet been made that the Purple Line should have sole use of the track area, MTA should:

- *Embed the Purple Line tracks in the pavement on University Boulevard so that the Purple Line transitway can be shared with a future bus rapid transit service.*

Bicycle and Pedestrian Access

The intersection of the Carroll Avenue and University Boulevard within the Long Branch Sector Plan area is heavily traveled by vehicles and pedestrians. It is within walking distance of three elementary/middle schools. At present, the planned Purple Line is accommodating pedestrian crossings at only three of the four legs of this intersection. Staff is concerned that the proposed crossings create a circuitous route for pedestrians making east/west movements through the intersection. This community has a large number of children and transit dependent residents so any proposed improvements should take into account the need for efficient pedestrian connections. Additionally, Long Branch has experienced a number of pedestrian and vehicular incidents in the past and the Sector Plan has proposed that it be improved with a variety of pedestrian safety measures. The current plan submitted by MTA does not allow for full crossing movements at this intersection and may encourage residents to make unsafe choices rather than use the proposed marked pedestrian crossings.

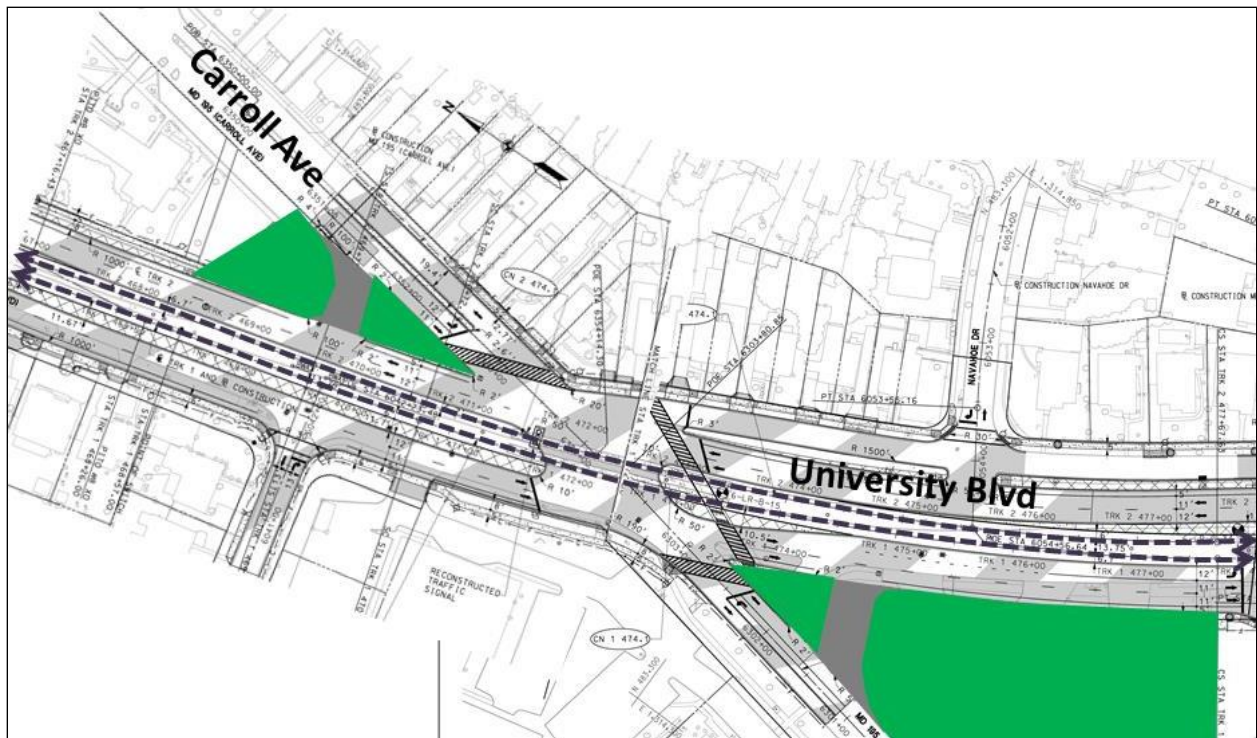
- *Provide an analysis of pedestrian circulation between the existing New Hampshire Estates, Rolling Terrace and Takoma Academy schools and the surrounding community to ensure that safe, adequate and efficient pedestrian connections are provided in each direction at the intersection of Carroll Avenue and University Boulevard.*

The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and Carroll Avenue are extremely wide and almost the same width as the adjacent three through lanes.

- *The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and Carroll Avenue should be designed to be more perpendicular to University Boulevard. This will reduce the need for the wide lanes, slow down turning traffic, and make it easier for pedestrians to cross. (SHA)*

An example is provided in Figure 1-50.

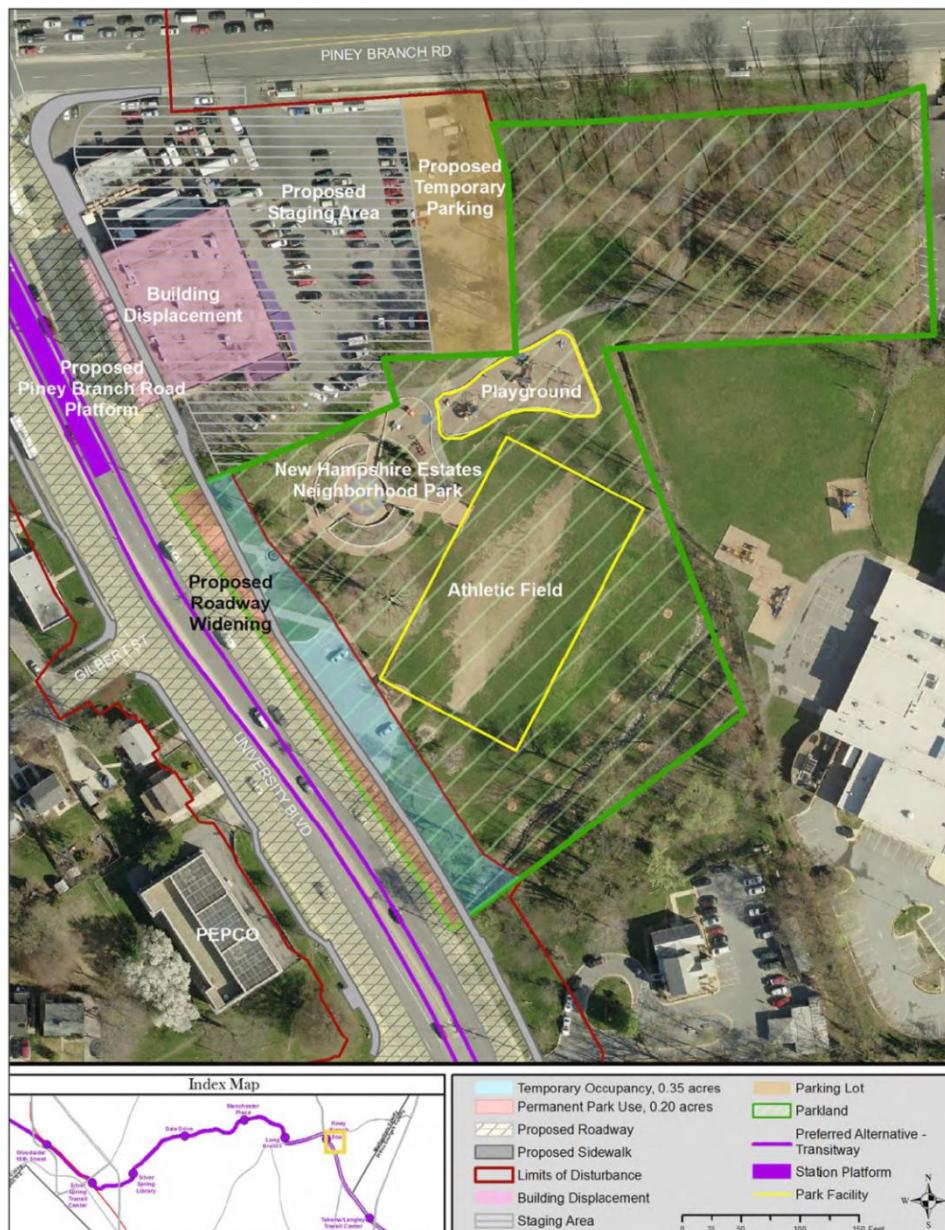
Figure 1-50: Turn Lanes Designed to be More Perpendicular to University Boulevard



NEW HAMPSHIRE ESTATES NEIGHBORHOOD PARK

The Purple Line passes by New Hampshire Estates Neighborhood Park on University Boulevard immediately to the south of the proposed Piney Branch Station. In order to accommodate the Purple Line and associated streetscape improvements (for cyclists and pedestrians), University Boulevard must be widened by 20 to 35 feet. Impacts to this park during construction of the Purple Line include: loss of the existing parking lot along University Boulevard; restricted access to the park from University Boulevard; and generally loss of park functionality. Construction of the Purple Line and the Piney Branch Station will disrupt use of this park. To mitigate these impacts, MTA has committed to numerous improvements. The following highlights some of the commitments from MTA in the *de-minimus* letter for this park and additional review of the mandatory referral submission.

Figure 1-51: New Hampshire Estates Neighborhood Park



De-minimus Commitments:

- *MTA will maintain access to the park during construction including temporary parking and access, as appropriate.*
- *MTA will provide a functional interim condition in coordination with M-NCPPC Montgomery County Department of Parks for the park prior to its planned redevelopment.*
- *MTA will design sidewalk improvements along University Boulevard to meet ADA requirements.*
- *MTA will consolidate its mitigation for permanent use of parkland in Montgomery County at a single site adjacent to New Hampshire Estates Neighborhood Park. M-NCPPC Montgomery County Department of Parks would accommodate the replacement land in their future redevelopment plan for the park.*
- *MTA would address a drainage issue on the eastern edge of the park by upgrading an existing stormwater culvert and grading the associated stream for a short distance.*
- *To minimize impacts, MTA would eliminate the space between the expanded roadway curb and sidewalk and implement a closed drainage system.*
- *New guardrails, signs, railings or other structures along University Boulevard within or adjacent to the park would match existing park elements, as reasonably feasible.*

Mandatory Referral Comments:

- *Access to all park facilities will be maintained throughout construction. Temporary parking facilities to replace the existing parking lot shall be provided off Piney Branch Road prior to the closure of the existing lot. The temporary parking lot shall be ADA-compliant and functionally interconnected with existing park facilities.*
- *MTA will replace long-term on-site parking consistent with existing facilities based on concept plans to be provided by the Department of Parks, which demonstrates full restoration of all park amenities impacted by the Purple Line construction, including the removal of all abandoned infrastructure due to reconstruction.*
- *Protect existing trees in the park.*
- *Reestablish the park pedestrian entrance from University Boulevard.*

TAKOMA LANGLEY TRANSIT CENTER STATION AREA

The Takoma Langley Transit Center Station is in the median of University Boulevard, just west of New Hampshire Avenue. It will have a center platform. Access to the station is from the crosswalks at New Hampshire Avenue and a new signalized intersection at the Takoma/Langley Transit Center. MTA forecasts that there will be 2,190 daily boardings at this station in 2040.

Figure 1-52: Takoma Langley Transit Center Station



Master Plan Consistency

The Takoma Langley Crossroads Sector Plan was approved in June 2012 by the Montgomery County Council. A Takoma Langley Crossroads Sector Plan was also approved by Prince George's County. The sector plans in both counties recommend evaluating a future realignment of Lebanon Street in Prince George's County with Anne Street in Montgomery County as part of the redevelopment of the block bounded by Lebanon Street, New Hampshire Avenue, and University Boulevard.

The Takoma Langley Crossroads Sector Plan (page 35) recommends a new signalized intersection for Street B-2 at one of two places: 1) the intersection of University Boulevard/Edwards Place is preferred by Planning Department staff for through traffic movements, and 2) the intersection of University Boulevard/just west of Edwards Place is preferred by a property owner for access and is currently proposed by MTA.

- *If the decision is made not to embed the tracks for the whole length of University Boulevard, then they should be embedded at all intersections for vehicular, pedestrian, and bicycle access.*

In particular,

- *Embed the Purple Line tracks at the intersection of University Boulevard and Gilbert Street.*
- *Embed the Purple Line tracks at the intersection of University Boulevard and Anne Street.*
- *Embed the Purple Line tracks at the intersection of University Boulevard and Edwards Place.*

Station Access

Pedestrian access to the Takoma Langley Transit Center Station will be “good” after completion of the Purple Line. On University Boulevard there will be six traffic signals within 2,200 feet, or approximately one signalized crossing every 450 feet.

- Carroll Avenue
- Merrimac Drive (new)
- Lebanon Street (new)
- East of Anne Street (new)
- Takoma Langley Transit Center
- New Hampshire Avenue

This is a substantial improvement over existing conditions and is a great example of how access can and should be improved at each station.

While there are locations where sidewalks are narrow and directly adjacent to the curb, the sidewalks will be widened to 15 feet with redevelopment.

MTA will be making substantial improvements to bicycle access on University Boulevard by providing bicycle lanes.

The intersection of University Boulevard should be designed to prioritize pedestrian safety and minimize their exposure. The proposed curb radii of 65 feet to 100 feet at three of the four corners are far in excess of what is needed to accommodate the design vehicle:

- *At the intersection of University Boulevard and New Hampshire Avenue, the radii should be reduced to encourage slower turning speeds, shorten the crossing distance, and to enable the handicap ramps to be in better alignment with the crosswalks. (SHA)*

AASHTO recommends that a pedestrian refuge be provided at all intersections that exceed 60 feet. The crossing distance of about 150 feet on the east leg of University Boulevard, for example, is 150% over the distance that AASHTO recommends that a pedestrian refuge be provided (60 feet).

- *At the intersection of University Boulevard and New Hampshire Avenue the median island on the east leg should be extended to create a refuge and the medians on the north and south legs should be bulbed-out to six feet minimum in width to create refuges. (SHA)*

In addition:

- *On the northeast and southwest corners of the intersection, the proposed landscape panels behind the sidewalk should instead be moved to be adjacent to the curb so that pedestrians are better guided toward the handicap ramps and to break up the expanse of pavement at this large intersection. (SHA)*

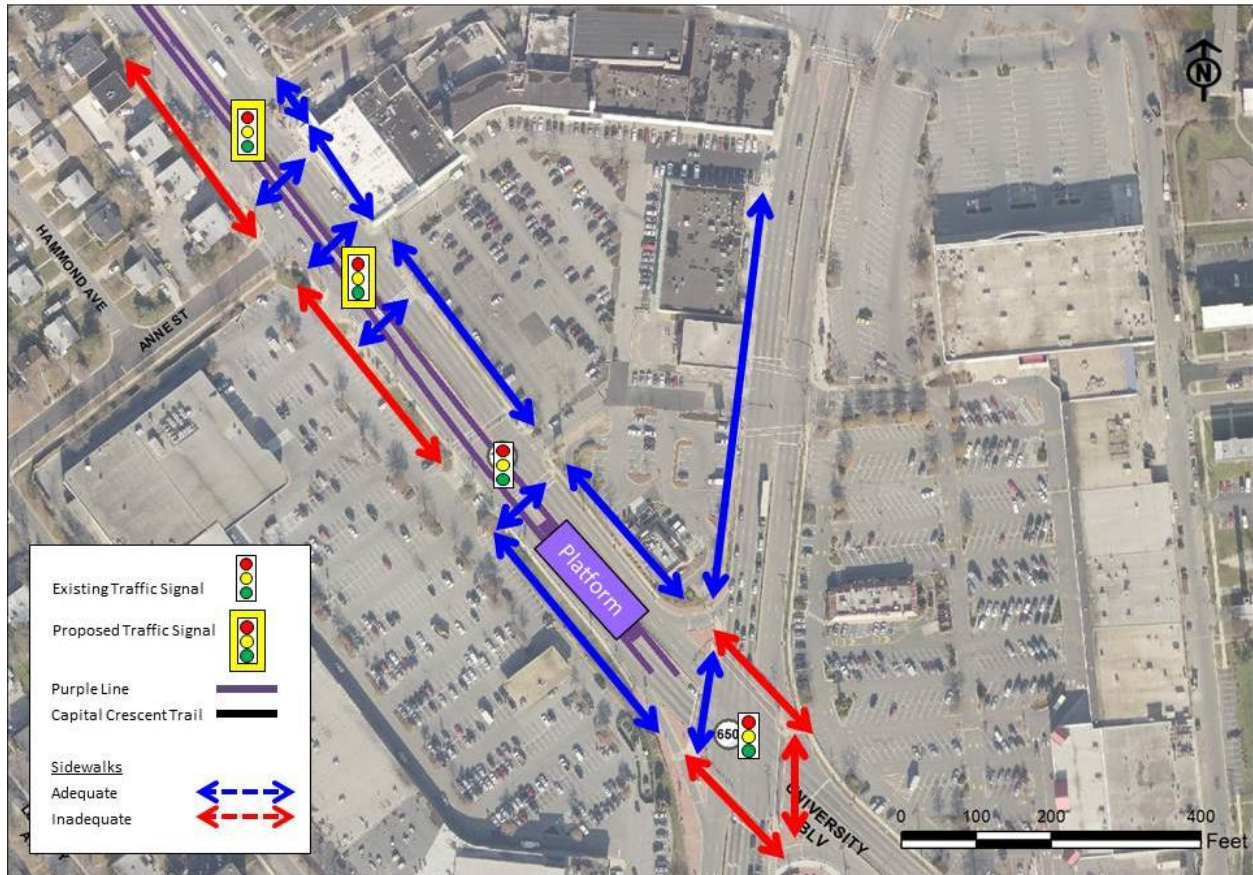
The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and New Hampshire Avenue are extremely wide and almost the same width as the adjacent three through lanes.

- *The right turn lanes in the northwest and southeast quadrants of the intersection of University Boulevard and Carroll Avenue should be designed to be more perpendicular to University*

Boulevard. This will reduce the need for the wide lanes, slow down turning traffic, and make it easier for pedestrians to cross. (SHA)

An example is provided in Figure 1-50.

Figure 1-53: Access to Takoma Langley Transit Center Station



Source: Montgomery Planning Department

B. MANDATORY REFERRAL #2: BETHESDA METRO STATION SOUTH ENTRANCE

Mandatory Referral No. MR2014034

RECOMMENDATIONS

Staff requests that the Planning Board transmit the following comments on the Bethesda Metro Station South Entrance project to Montgomery County Department of Transportation. For more detail see: www.mcatlas.org/purple)

1. Should an agreement be made by mid April 2014 to demolish the Apex Building to allow an improved Bethesda station design to be built, MCDOT must submit the “alternative” Bethesda Metro Station South Entrance project design to the Planning Board as a mandatory referral.
2. On Elm Street at the intersection with Wisconsin Avenue, the existing eastbound movement should continue to permit all movements if possible.
3. Provide dual handicap ramps at the southwest corner of Wisconsin Avenue and Elm Street.

PROJECT DESCRIPTION

The Bethesda Metro Station South Entrance will add a second, entrance at the south end of the platform to the Bethesda Metrorail station. This station currently has an entrance on its north end, at the intersection of Wisconsin Avenue and East-West Highway, but was built to accommodate a future south entrance. The new south entrance will be located on Elm Street, just west of Wisconsin Avenue, and will connect street level, the Bethesda Purple Line station, and the south end of the Red Line station platform with six elevators and a new Red Line mezzanine. Two elevators will connect street level to the Purple Line platform. Four elevators will connect the Purple Line platform to the Red Line mezzanine. Escalators and an elevator will connect the Red Line mezzanine to the existing Red Line platform.

This project is funded by Montgomery County but will be designed and constructed by the Maryland Transit Administration.

Figure 2-1: “Default” Bethesda Metro Station South Entrance



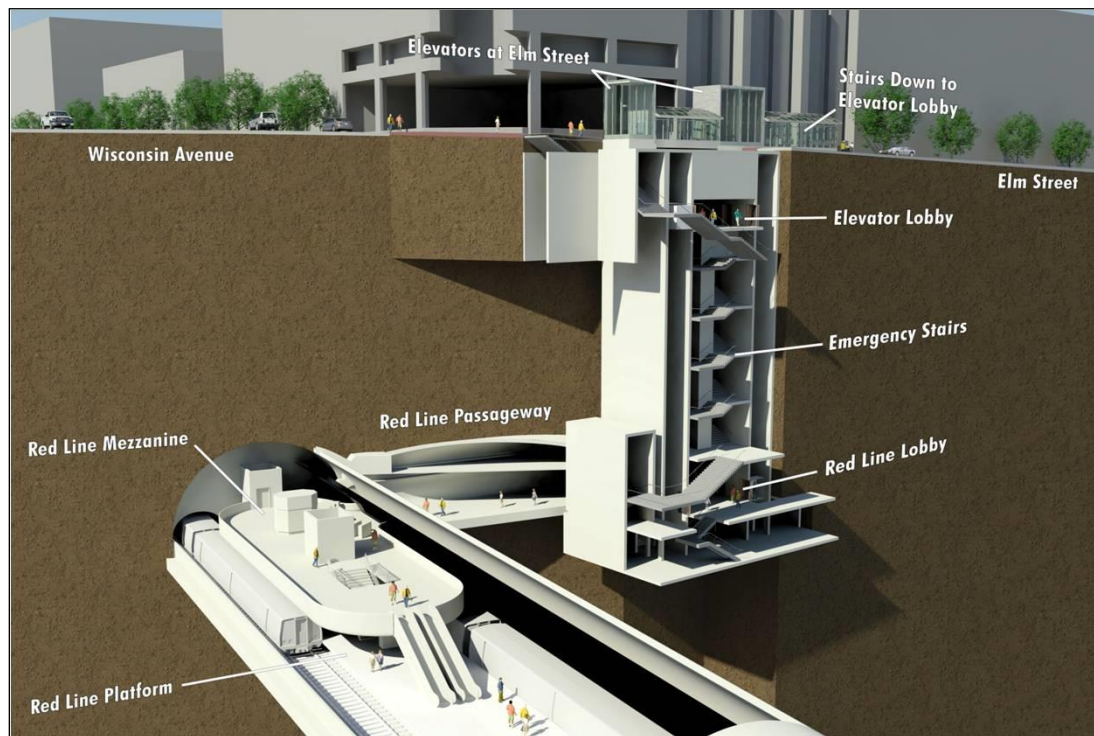
Source: Maryland Transit Administration

MASTER PLAN CONSISTENCY

The recently approved Bethesda Purple Line Station Minor Master Plan recommends both a “default” station and an “alternative” station for the Purple Line depending on whether the Apex Building is demolished before construction of the Purple Line.

The “default” station is the subject of this mandatory referral. It includes the Bethesda Metro Station South Entrance project as described above, which will be constructed if there is not an agreement by mid April 2014 to raze the Apex Building. The “default” station design is consistent with the Bethesda Purple Line Station Minor Master Plan.

Figure 2-2: “Default” Bethesda Metro Station South Entrance

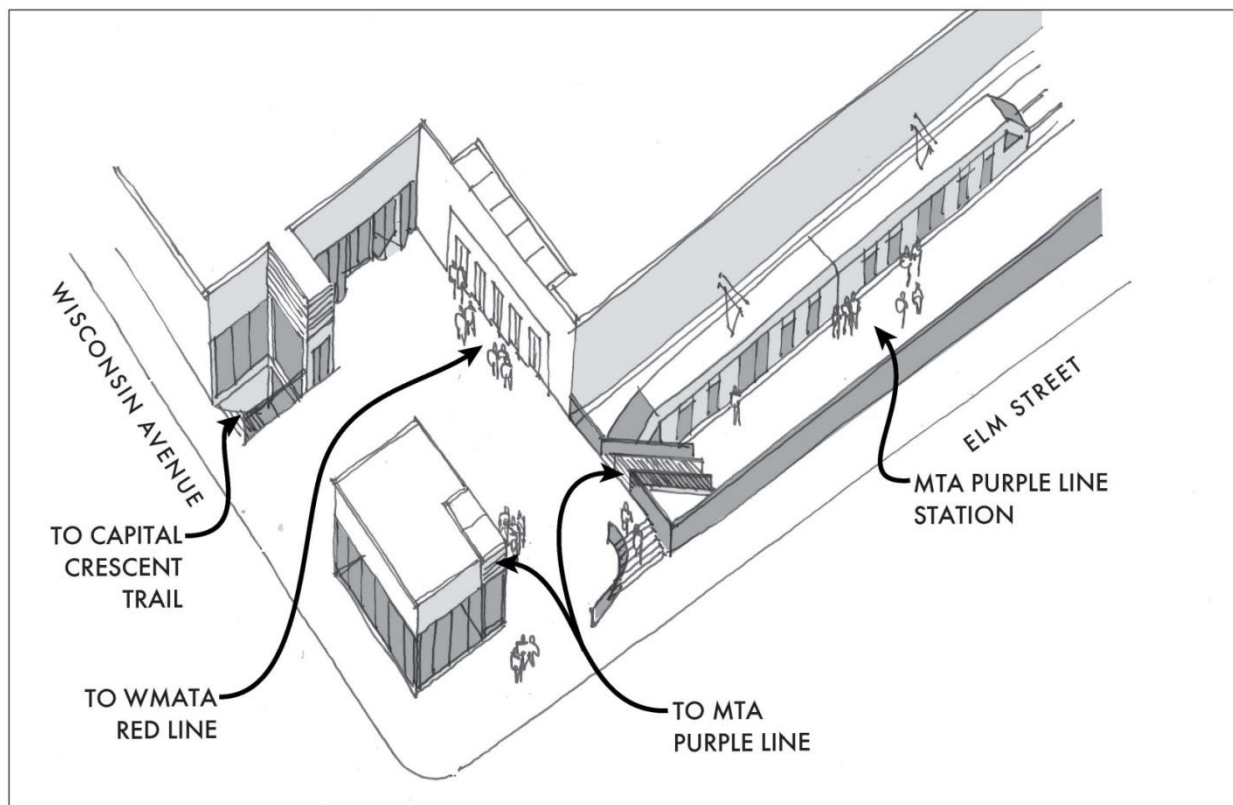


Source: Maryland Transit Administration

The “alternative” station will be constructed if the Apex Building is demolished before the Purple Line is constructed. This option is still under development but as currently envisioned would have five elevators that connect street level to the Red Line level. Two elevators and stairs would connect street level to the Purple Line.

- ➡ *Should an agreement be made by mid April 2014 to demolish the Apex Building to allow an improved Bethesda station design to be built, MCDOT must submit the “alternative” Bethesda Metro Station South Entrance project design to the Planning Board as a mandatory referral.*

Figure 2-3: "Alternative" Bethesda Metro Station South Entrance



Source: Maryland Transit Administration

STAFF ANALYSIS

Transportation Analysis

The Bethesda Metro Station South Entrance project will provide much needed access to the Bethesda Metro station, extending the reach of Metrorail and reducing the travel time to the station by over 3 minutes for some passengers. In addition, it will be constructed adjacent to the Bethesda Purple Line station, providing faster transfers between the Red Line and the Purple Line.

Another benefit of the elevator project is that it will enhance safety and security by providing additional options for evacuation. The National Fire Protection Association (NFPA) has two standards for evaluating safe egress from deep underground stations on fixed guideway transit and passenger rail systems. The discussion below uses analysis provided in the *South Entrance to Bethesda Metro Station Basis of Design Report, Draft October 2013*. It assumes a peak period scenario in 2030, when the trains are filled to capacity and two trains are in the station.

Standard 1: Platform Evacuation Time

NFPA 130, 5.5.6.1 requires that sufficient capacity be provided to evacuate a transit station platform from the station in 4 minutes or less. Without the south entrance the evacuation time will be 26.9 minutes in 2030. With the south entrance project the evacuation time is reduced to 6.7 minutes in 2030.

Standard 2: Evacuation Time to a Point of Safety

NFPA 130, 5.5.6.2 also requires that a station be design to permit evacuation from the most remote point on the platform to a point of safety in 6 minutes or less. With the south entrance project the evacuation time is reduced to 7.8 minutes in 2030.

The Bethesda Metrorail station was constructed before the NFPA 101 standards were developed, and so the station was not designed to meet them. While the Bethesda Metrorail station will not meet the thresholds for safe egress for either of the more recent standards when the Bethesda Metro Station South Entrance project is complete, the new elevators will substantially improve evacuation times from this station.

The addition of a Red Line station entrance and a Purple Line station creates a new multimodal hub three block to the south of the existing Bethesda Station. The Bethesda Downtown Master Plan will need to consider how to accommodate the additional bus demand that is likely at this location.

Additional comments:

- ➡ *Provide dual handicap ramps at the southwest corner of Wisconsin Avenue and Elm Street.*
- ➡ *On Elm Street at the intersection with Wisconsin Avenue, the existing eastbound movement should continue to permit all movements if possible.*

Community Design Analysis

Existing plans include two high speed elevators on Elm Street as part of the Bethesda Station South Entrance project. These elevators have a visual presence on Elm Street and provide a circulation area that is adequate, but not ideal.

C. MANDATORY REFERRAL #3: CAPITAL CRESCENT TRAIL

Mandatory Referral No. MR2014035

RECOMMENDATIONS

Staff requests that the Planning Board transmit the following comments on the Capital Crescent Trail project to Montgomery County unless another agency is specified in parentheses at the end of the comment.

General Comments

- A. The Purple Line RFP should provide a strong incentive to keeping the trail closure to a minimum and phase trail closures in a logical sequence, consistent with construction phasing/schedules. (MTA)
- B. Implement a wayfinding plan on the trail at all access points and in locations beyond the trail to direct trail users to the trail.
- C. Develop and implement a unique signing and branding plan for the Capital Crescent Trail between the Silver Spring Metro station and the Bethesda Metro station. Signing should be provided at regular intervals on the trail, as well as at all access points.
- D. All ramp connections to the Capital Crescent Trail should be flared to the extent possible to facilitate access to the trail.
- E. In the final design, any noise walls planned for installation should be placed directly adjacent to the track. In cases where the trail and the tracks are parallel, the noise wall should be placed between the track and the trail. A fence will be placed on the outer edge of the trail. This will improve the sound and visual quality along the trail by creating a solid buffer from moving rail equipment. (MTA)

Location Specific Comments (for more detail see: www.mcatlas.org/purple)

- 1. Provide a smooth transition for the Capital Crescent Trail into Elm Street Park, avoiding sharp turns by making structural adjustments to the Air Rights Building garage.
- 2. Along East-West Highway, widened the sidewalk to 7 feet and build it against the retaining wall for the ramp so that a landscaped buffer between the sidewalk and the road can be provided. Add an ADA ramp that is aligned with the ramp on the other side of the driveway.
- 3. To create additional landing space at the western terminus of the East-West Highway ramp, investigate whether it is possible to reduce the length of the landing area at the junction with the Capital Crescent Trail.
- 4. Provide a bicycle channel on the stairway connection to the Capital Crescent Trail at East-West Highway
- 5. Provide a bicycle channel on the stairway connection to the Capital Crescent Trail at Sleaford Road
- 6. A shared use path should be provided on the south side of Newdale Road that is 10 feet wide where right-of-way is available, and 8 feet wide in constrained locations.
- 7. Provide a bicycle channel on the stairway connection to the Capital Crescent Trail on the east side of Connecticut Avenue.
- 8. Design the ultimate ramp connection between the Capital Crescent Trail and the Coquelin Run Trail during final design.

9. To enhance trail security, a temporary staircase should be constructed from the Capital Crescent Trail to the Coquelin Run right-of-way.
10. Provide a landing area between Jones Mill Road and Capital Crescent Trail that facilitates adequate sight distance and safe connections.
11. The median island on the south leg of Jones Mill Road, across from the ramp, should be 8 to 10 feet wide to facilitate use by southbound bicyclists headed toward the ramp.
12. The sidewalk in the southwest quadrant of the intersection of Jones Bridge Road and Jones Mill Road should be constructed behind the proposed ramps to facilitate travel by disabled persons as well as to provide storage space for people waiting to cross either street.
13. The gap between the two traffic islands at Station 1034+00 appears to be too narrow to adequately accommodate left turns from Jones Bridge Road.
14. Issue a change order to address the substandard trail width on the Capital Crescent Trail, between Michigan Avenue and Lanier Drive, if recommended by the Greater Lyttonsville Sector Plan.
15. If CSX does not agree to locate the Capital Crescent Trail on CSX property between Lyttonsville Road and 16th Street, MCDOT must submit the revised trail plans to the Planning Board as a mandatory referral.
16. Realign the trail access point to either Noyes Lane or Noyes Drive to avoid mid-block crossings.
17. Investigate ways to widen the connection between the Capital Crescent Trail and the Metropolitan Branch Trail to be 16 feet upon completion of the Silver Spring Transit Center to achieve a 12-foot effective width.

PROJECT DESCRIPTION

The Capital Crescent Trail is an off-road shared-use path that will form a crescent as it travels from Georgetown to Silver Spring via Bethesda. Montgomery County purchased the right-of-way between the DC Line and the CSX tracks just west of Silver Spring in 1988. M-NCPPC has jurisdiction over the portion between the DC Line and Bethesda and the Montgomery County Department of Transportation has jurisdiction over the portion between Bethesda and Silver Spring. In 1990, the National Park Service acquired the Georgetown Branch from Georgetown to the DC Line.

The Capital Crescent Trail is currently paved from Georgetown to Bethesda. Between Bethesda and Silver Spring it is currently called the Interim Georgetown Branch Trail. It has a gravel surface between Bethesda and Lyttonsville and is on-road between Lyttonsville and Silver Spring.

The current project will extend the Capital Crescent Trail as a paved off-road shared use path from Bethesda to Silver Spring in conjunction with the Purple Line light rail project. This segment will typically be 12 feet wide with two-foot-wide unpaved shoulders on each side. It will serve both a recreational and transportation function, providing direct access to both the Purple Line and the Bethesda and Silver Spring Metrorail stations.

The Capital Crescent Trail extension is a Montgomery County-funded project that will be designed and constructed by the Maryland Transit Administration.

Figure 3-1: Rendering of the Purple Line and Capital Crescent Trail



Source: Maryland Transit Administration

MASTER PLAN CONSISTENCY

The Capital Crescent Trail is substantially consistent with approved and adopted master plans.

Elm Street Park

The recently approved Bethesda Purple Line Station Minor Master Plan recommends that the Capital Crescent Trail “mainline route” cross over the Purple Line on a bridge and then travel along the northern edge of Elm Street Park (just south of the Purple Line) southwest to the intersection of Elm Street and 47th Street, where it branches into a “surface route” and a potential new “tunnel route.” As currently designed there are two closely spaced turns into Elm Street Park (see Figure 3-2). This will be difficult for many cyclists to navigate, especially cyclists with trailers, and will create a severe pinch point at a location that will experience high use. MTA has indicated that it is unwilling to provide a smooth transition into the park because that would require making structural changes to the Air Rights Building parking garage. However, that is a decision for the Montgomery County Department of Transportation to make. Therefore, to be consistent with the master plan, MCDOT should:

- ➡ *Provide a smooth transition for the Capital Crescent Trail into Elm Street Park, avoiding sharp turns by making structural adjustments to the Air Rights Building garage.*

Figure 3-2: Bethesda Purple Line Station Minor Master Plan Amendment Recommended Tunnel Option



Source: Maryland Transit Administration

Trail Access from Lynn Drive

There are 22 planned access points on the Capital Crescent Trail, including 21 recommended in the Purple Line Functional Plan and one recommended in the Chevy Chase Lake Sector Plan. Only one master-planned access points is not included in the plans – the Lynn Drive access point to the Town of Chevy Chase. The Purple Line Functional Plan (page 11) recognized the potential difficulty in constructing this access point and recommends that “in the design phase alternatives to the Lynn Drive at-grade crossing should be explored and if the crossing is retained, special attention given to safety.” MTA, MCDOT, and Planning Department staff have met with the Town of Chevy Chase Purple Line Mitigation Advisory Group multiple times since 2010. MTA’s analysis has indicated the at-grade crossing cannot safely be provided at the current light rail design speed and the Planning Board has previously concurred that reducing the speed in this section is undesirable. MTA has evaluated multiple options for a grade-separated trail crossing of the tracks at Lynn Drive but the trade-offs (e.g., higher train and retaining wall profile, vehicular speeds along East West Highway, etc.) have been found by the Town to be unacceptable.

MTA, MCDOT, and Planning staff met with the Town of Chevy Chase on March 4, 2013 to review the current status of this issue. MTA agreed at the meeting to evaluate an option that could potentially lower the profile of the retaining wall associated with a pedestrian underpass option but would likely require additional right-of-way on both sides of the track/trail to accommodate access at the ends of the pedestrian tunnel. MTA’s position is that they will not incur additional costs to purchase additional right

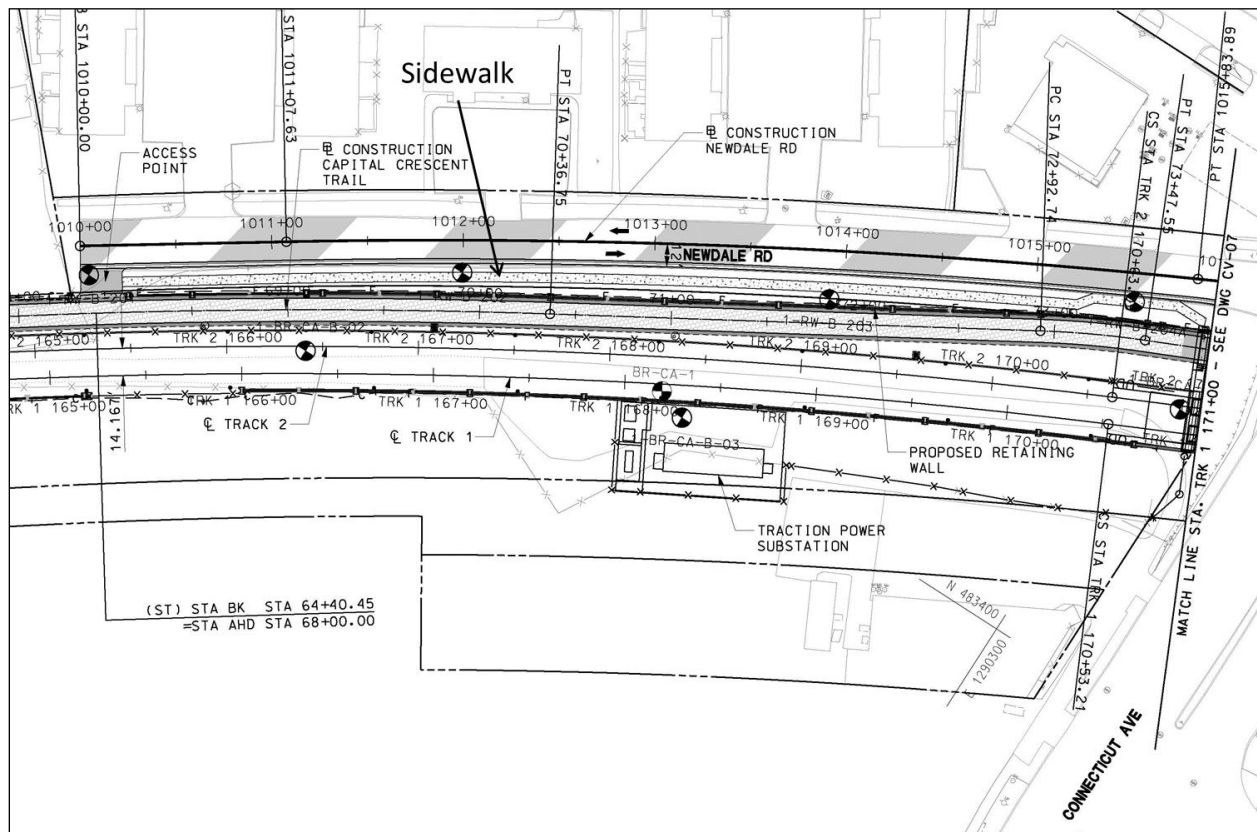
of way within the Georgetown Branch right of way and that this is a County issue to decide, since there is no adjacent station to be accessed.

Connecticut Avenue Trail Access

The Chevy Chase Lake Sector Plan recommends a shared use path (LB-4) on the south side of Newdale Road to connect the Capital Crescent Trail to the west side of Connecticut Avenue. Currently, engineering plans show a 5 to 6-foot-wide sidewalk in this location (see Figure 3-3). MTA has indicated that “an 8-foot-wide shared use path cannot be accommodated due to the proximity of MSE Wall 1FO supporting the CCT.” However, it is unclear why the shared use path cannot be widened for most of its length, given that there is a buffer between the path and Newdale Road that is a few feet wide.

- *A shared use path should be provided on the south side of Newdale Road that is 10 feet wide where right-of-way is available, and 8 feet wide in constrained locations.*

Figure 3-3: Sidewalk Proposed on Newdale Road



Coquelin Run Shared Use Path

The Chevy Chase Lake Sector Plan recommends a shared use path (SP-82) between Jones Bridge Road and Chevy Chase Lake Drive, with a connection to the Capital Crescent Trail. The Purple Line plans reflect a 14-foot-wide underpass for SP-82; however, a connection between the two trails is not included.

- *Design the ultimate ramp connection between the Capital Crescent Trail and the Coquelin Run Trail during final design. (MCDOT)*

Until this ramp connection is constructed, the distance between the two closest trail access points (Connecticut Avenue and Jones Mill Road) is about two-thirds of a mile, roughly a 14 minute walk. For trail users in this segment, the maximum walk time to any access point will be 7 minutes, or half the walk time from end to end.

- ➡ *To enhance trail security, a temporary staircase should be constructed from the Capital Crescent Trail to the Coquelin Run right-of-way.*

This will result in a maximum walk time between access points to about 4.7 minutes between Connecticut Avenue and the Coquelin Run right-of-way and to about 2.5 minutes between the Coquelin Run and Jones Mill Road.

Talbot Avenue

The Purple Line Functional Plan (page 25) recommends a separate bridge for the Capital Crescent Trail that crosses the CSX right-of-way between Hanover St and Grace Church Road. Until about a year ago MCDOT was proposing the trail bridge to be located between Michigan Avenue and Lanier Drive (Figure 3-4). However, to reduce impacts to Rosemary Hills Elementary School, to limit impacts to CSX property, and to reduce costs, the trail now runs parallel to Talbot Avenue and is combined with a widened Talbot Avenue bridge (Figure 3-5). While one benefit for the trail is a reduced grade, between Michigan Avenue and Lanier Drive the trail is only 10 feet wide and is adjacent to both the curb and a wall. Assuming a two-foot shy distance to lateral obstructions, the effective trail width in this section is only 6 feet and does not meet the minimum standards of a shared use path as defined in AASHTO. To be a functional shared use path, the Capital Crescent Trail would need to be widened a minimum of 2 feet, but preferably by 4 feet to match the rest of the trail in this location. In addition, while a previous solution required slight strip acquisitions from three property owners on Talbot Avenue and replaced the existing sidewalk along their frontage, the new design includes somewhat larger strip acquisitions from five property owners.

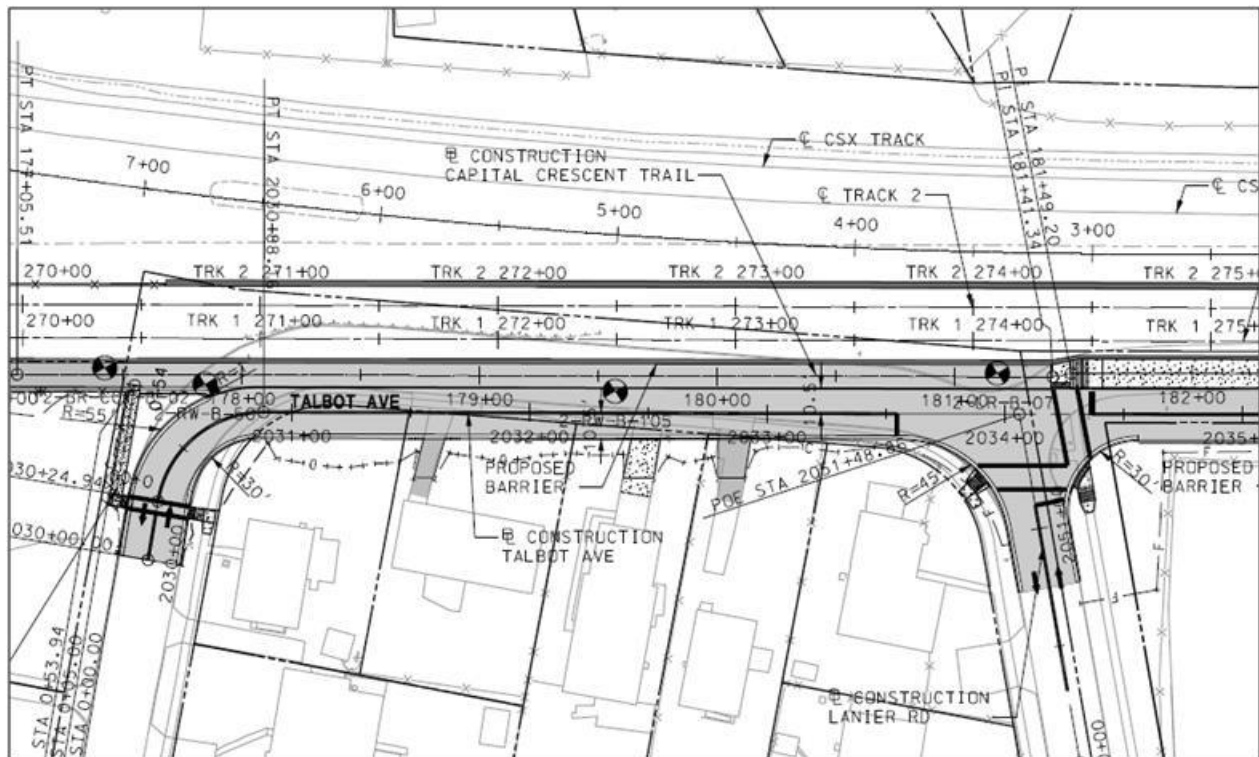
The proposed location of the trail in the September 2012 engineering drawings is on CSX property, within 50 feet of their track centerline, and therefore does not meet CSX's criteria for selling their property for a trail. Therefore, the best location for the trail appears to be on the south side of the tracks as shown in the December 2013 engineering drawings. This means that there are tradeoffs to consider between impacts to residential properties, the function of the Capital Crescent Trail, and the function of Talbot Avenue. Since this involves potential changes to circulation, emergency vehicle access, and private property, this issue should be explored in greater detail as part of the ongoing Greater Lyttonsville Sector Plan. Therefore, MCDOT should:

- ➡ *Issue a change order to address the substandard trail width on the Capital Crescent Trail, between Michigan Avenue and Lanier Drive, if recommended by the Greater Lyttonsville Sector Plan. (MCDOT)*

This engineering plan view illustrates the proposed construction for the Capital Crescent Trail Bridge and Talbot Avenue West. The map shows the intersection of the trail bridge, which runs diagonally from the upper left towards the center, and Talbot Avenue West, which runs horizontally across the middle. Key features include:

- Capital Crescent Trail Bridge:** Labeled with stationing from 180+00 to 185+00. It crosses over Talbot Avenue West.
- Talbot Avenue West:** Labeled with stationing from 2030+00 to 2051+00. It features a 'PROPOSED BARRIER' and 'CONSTRUCTION' areas.
- CSX Tracks:** Two tracks are shown, labeled 'CSX TRACK' and 'TRACK 2', with stationing from 180+00 to 2051+00.
- Trail Bridge:** A section of the trail bridge is shown with stationing from 179+00 to 180+00.
- Construction Areas:** Indicated by dashed lines and labels such as 'CONSTRUCTION CAPITAL CRESCENT TRAIL' and 'CONSTRUCTION TALBOT AVENUE WEST'.
- Stationing:** Various stationing points are marked along the routes, including 179+00, 180+00, 181+00, 182+00, 183+00, 184+00, 185+00, 186+00, 187+00, 188+00, 189+00, 190+00, 191+00, 192+00, 193+00, 194+00, 195+00, 196+00, 197+00, 198+00, 199+00, 200+00, 201+00, 202+00, 203+00, 204+00, 205+00, 206+00, 207+00, 208+00, 209+00, 210+00, 211+00, 212+00, 213+00, 214+00, 215+00, 216+00, 217+00, 218+00, 219+00, 220+00, 221+00, 222+00, 223+00, 224+00, 225+00, 226+00, 227+00, 228+00, 229+00, 230+00, 231+00, 232+00, 233+00, 234+00, 235+00, 236+00, 237+00, 238+00, 239+00, 240+00, 241+00, 242+00, 243+00, 244+00, 245+00, 246+00, 247+00, 248+00, 249+00, 250+00, 251+00, 252+00, 253+00, 254+00, 255+00, 256+00, 257+00, 258+00, 259+00, 260+00, 261+00, 262+00, 263+00, 264+00, 265+00, 266+00, 267+00, 268+00, 269+00, 270+00, 271+00, 272+00, 273+00, 274+00, 275+00, 276+00, 277+00, 278+00, 279+00, 280+00, 281+00, 282+00, 283+00, 284+00, 285+00, 286+00, 287+00, 288+00, 289+00, 290+00, 291+00, 292+00, 293+00, 294+00, 295+00, 296+00, 297+00, 298+00, 299+00, 300+00, 301+00, 302+00, 303+00, 304+00, 305+00, 306+00, 307+00, 308+00, 309+00, 310+00, 311+00, 312+00, 313+00, 314+00, 315+00, 316+00, 317+00, 318+00, 319+00, 320+00, 321+00, 322+00, 323+00, 324+00, 325+00, 326+00, 327+00, 328+00, 329+00, 330+00, 331+00, 332+00, 333+00, 334+00, 335+00, 336+00, 337+00, 338+00, 339+00, 340+00, 341+00, 342+00, 343+00, 344+00, 345+00, 346+00, 347+00, 348+00, 349+00, 350+00, 351+00, 352+00, 353+00, 354+00, 355+00, 356+00, 357+00, 358+00, 359+00, 360+00, 361+00, 362+00, 363+00, 364+00, 365+00, 366+00, 367+00, 368+00, 369+00, 370+00, 371+00, 372+00, 373+00, 374+00, 375+00, 376+00, 377+00, 378+00, 379+00, 380+00, 381+00, 382+00, 383+00, 384+00, 385+00, 386+00, 387+00, 388+00, 389+00, 390+00, 391+00, 392+00, 393+00, 394+00, 395+00, 396+00, 397+00, 398+00, 399+00, 400+00, 401+00, 402+00, 403+00, 404+00, 405+00, 406+00, 407+00, 408+00, 409+00, 410+00, 411+00, 412+00, 413+00, 414+00, 415+00, 416+00, 417+00, 418+00, 419+00, 420+00, 421+00, 422+00, 423+00, 424+00, 425+00, 426+00, 427+00, 428+00, 429+00, 430+00, 431+00, 432+00, 433+00, 434+00, 435+00, 436+00, 437+00, 438+00, 439+00, 440+00, 441+00, 442+00, 443+00, 444+00, 445+00, 446+00, 447+00, 448+00, 449+00, 450+00, 451+00, 452+00, 453+00, 454+00, 455+00, 456+00, 457+00, 458+00, 459+00, 460+00, 461+00, 462+00, 463+00, 464+00, 465+00, 466+00, 467+00, 468+00, 469+00, 470+00, 471+00, 472+00, 473+00, 474+00, 475+00, 476+00, 477+00, 478+00, 479+00, 480+00, 481+00, 482+00, 483+00, 484+00, 485+00, 486+00, 487+00, 488+00, 489+00, 490+00, 491+00, 492+00, 493+00, 494+00, 495+00, 496+00, 497+00, 498+00, 499+00, 500+00, 501+00, 502+00, 503+00, 504+00, 505+00, 506+00, 507+00, 508+00, 509+00, 510+00, 511+00, 512+00, 513+00, 514+00, 515+00, 516+00, 517+00, 518+00, 519+00, 520+00, 521+00, 522+00, 523+00, 524+00, 525+00, 526+00, 527+00, 528+00, 529+00, 530+00, 531+00, 532+00, 533+00, 534+00, 535+00, 536+00, 537+00, 538+00, 539+00, 540+00, 541+00, 542+00, 543+00, 544+00, 545+00, 546+00, 547+00, 548+00, 549+00, 550+00, 551+00, 552+00, 553+00, 554+00, 555+00, 556+00, 557+00, 558+00, 559+00, 560+00, 561+00, 562+00, 563+00, 564+00, 565+00, 566+00, 567+00, 568+00, 569+00, 570+00, 571+00, 572+00, 573+00, 574+00, 575+00, 576+00, 577+00, 578+00, 579+00, 580+00, 581+00, 582+00, 583+00, 584+00, 585+00, 586+00, 587+00, 588+00, 589+00, 590+00, 591+00, 592+00, 593+00, 594+00, 595+00, 596+00, 597+00, 598+00, 599+00, 600+00, 601+00, 602+00, 603+00, 604+00, 605+00, 606+00, 607+00, 608+00, 609+00, 610+00, 611+00, 612+00, 613+00, 614+00, 615+00, 616+00, 617+00, 618+00, 619+00, 620+00, 621+00, 622+00, 623+00, 624+00, 625+00, 626+00, 627+00, 628+00, 629+00, 630+00, 631+00, 632+00, 633+00, 634+00, 635+00, 636+00, 637+00, 638+00, 639+00, 640+00, 641+00, 642+00, 643+00, 644+00, 645+00, 646+00, 647+00, 648

Figure 3-5: Capital Crescent Trail at Talbot Avenue (December 2013 Design)



3-7

CSX Property

At this point there is no agreement between CSX Transportation and MTA to locate the Capital Crescent Trail on CSX property between Lyttonsville Road and 16th Street. If this issue is not resolved MCDOT will need to select an alternate routing for the trail. This would constitute a major change to the trail alignment and MCDOT would need to resubmit the project for mandatory referral, albeit as a more limited review.

- *If CSX does not agree to locate the Capital Crescent Trail on CSX property between Lyttonsville Road and 16th Street, MCDOT must submit the revised trail plans to the Planning Board as a mandatory referral.*

STAFF ANALYSIS

The extension of the Capital Crescent Trail from Bethesda to Silver Spring is perhaps the most important unbuilt master-planned bikeway in the County's master plans. It will provide excellent connections between Montgomery County's two largest activity centers (Silver Spring and Bethesda), two Metrorail stations, and five Purple Line stations. Combined with the Metropolitan Branch Trail, it will form a loop through the District of Columbia. Upon completion, the portion of the trail between Bethesda and Silver Spring will shift from being primarily a recreational trail with some transportation usage, to being a transportation trail with a high level of recreational usage. Trail usage east of Bethesda is expected to grow dramatically. Much of the increased demand will be from pedestrians and cyclists traveling to and from the Purple Line and Red Line stations and jobs in Bethesda and Silver Spring.

While the Capital Crescent Trail will be substantially improved over the existing Georgetown Branch Trail, it is important to acknowledge that the user experience will change substantially. It will be:

- Extended as a shared use path from Lyttonsville to the Silver Spring Transit Center
- Paved between Bethesda and the Silver Spring Transit Center
- Adjacent to a light rail corridor, with substantially fewer trees
- Grade separated at Connecticut Avenue, Jones Mill Road, 16th Street, and Colesville Road
- On-road between Elm Street Park and Woodmont Avenue, unless an agreement is reached by mid April 2014 to raze the Apex Building and construct a new tunnel
- Directly connected to the Rock Creek Trail via a new switchback trail

Transportation Analysis

Trail Closure

The Purple Line is expected to begin construction in 2015 and to begin service in 2020. This will mean that the Capital Crescent Trail could be out of service for as much as 5 years. The County T&E Committee asked MCDOT to develop a detour plan during their work session on February 24, 2014. Staff supports this request, and furthermore requests that MTA include incentives to minimize disruption to the trail.

- *The Purple Line RFP should provide a strong incentive to keeping the trail closure to a minimum and phase trail closures in a logical sequence, consistent with construction phasing/schedules. (MTA)*

Grade Separation

The trail will be mostly grade-separated between Elm Street Park in Bethesda and the Silver Spring Transit Center. At-grade crossings will occur in four locations:

- Wisconsin Avenue, unless a new tunnel is constructed
- 47th Street, a low volume road
- Stewart Avenue, a low volume “stub street” in Lyttonsville
- At the north end of the Talbot Avenue bridge in Lyttonsville

With the exception of Wisconsin Avenue, the at-grade crossings are on low-volume streets and should not substantially impact the quality of the user experience.

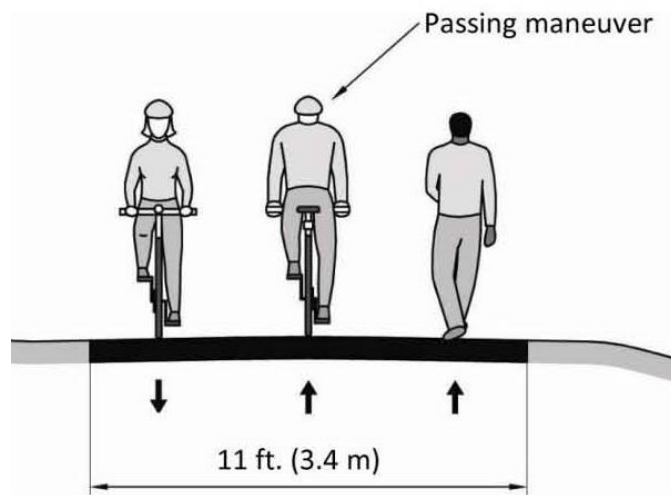
In addition, while previous designs of the trail included an at grade crossing from the Purple Line platform to the second level of the Silver Spring Transit Center, the current design separates trail users from crossing pedestrians.

Trail Width

The trail will be designed to be 12 feet wide with 2-foot-wide shoulders. A 12-foot-wide trail will provide a high level of comfort and convenience for trail users, because it will enable two trail users to pass another trail user traveling in the opposite direction (Figure 3-6). As such, it will avoid many of the congestion problems that degrade the user experience on other popular trails in the region, including portions of the Rock Creek Trail in the District of Columbia, the Mount Vernon Trail in Virginia, and the W&OD Trail in Virginia.

There are a few pinch points where the trail width drops to 10 feet. Perhaps the most problematic is where the trail runs along the edge of Elm Street Park. This is likely to be an area of high demand and trail users will need to reduce their speeds through this area at times of high demand, to ensure the safety and enjoyment of other park users.

Figure 3-6: Space Required for Three Trail Users



Source: 4th Edition of the Guide for the Development of Bicycle Facilities

Wayfinding

The Capital Crescent Trail's importance as a bikeway will increase with the completion of the project, but a wayfinding plan has not yet been developed to direct trail users to and from the trail/bikeway. An example of wayfinding is shown in Figure 3-7.

- *Implement a wayfinding plan on the trail at all access points and in locations beyond the trail to direct trail users to the trail.*

Access Points

There are 22 access points between Elm Street Park and the Silver Spring Transit Center. Table 3-1 provides a description of each access point, whether access is by stairs, ramps, or along the road, whether a bicycle channel is recommended, the travel time between access points, and the ramp width.

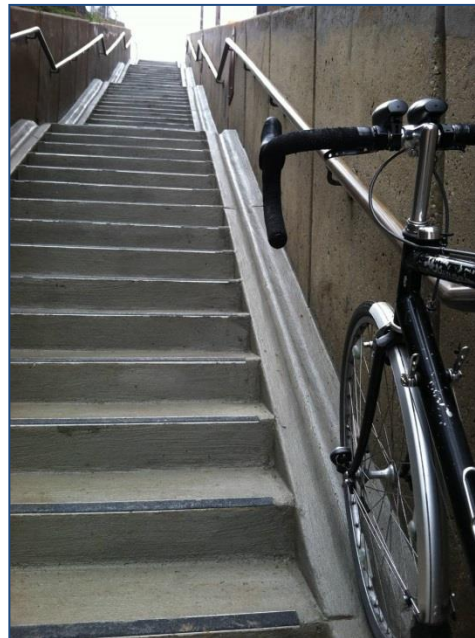
In some locations only stair access is provided to the Capital Crescent Trail, due to right-of-way limitations or other reasons. For people on bicycles this can be challenging, because carrying bicycles up stairs can be heavy and awkward. Bicycle "channels" provide a groove on the side of the staircase that enables many cyclists to push their bicycles up and down the stairs. A local example is shown at the Rhode Island Avenue Metrorail Station in Washington, DC (Figure 3-8). To facilitate bicycle access:

- *Provide a bicycle channel on the stairway connection to the Capital Crescent Trail at East-West Highway*
- *Provide a bicycle channel on the stairway connection to the Capital Crescent Trail at Sleaford Road*
- *Provide a bicycle channel on the stairway connection to the Capital Crescent Trail on the east side of Connecticut Avenue.*

Figure 3-7: Wayfinding at the Custis Trail in Virginia



Figure 3-8: Bicycle Channel at the Rhode Island Ave Station



Access points not only provide connections to the community, they also enhance personal security by reducing the walking distance to exit the trail. According to Table 3-1, the greatest travel time between access points (Connecticut Avenue to Jones Mill Road) is 14.4 minutes at an average walking pace (4.0 feet per second). Since the maximum travel time for anyone to get off the trail is half of the travel time between access points, it will take as many as 7.2 minutes for someone to get off the trail at this location at an average walking pace. The Chevy Chase Lake Sector Plan recommends adding a trail access point at Coquelin Run, which will cut this down to 4.7 minutes. Providing a temporary staircase connecting the Capital Crescent Trail to the Coquelin Run right-of-way will enhance security by providing another opportunity to leave the trail.

Table 3-1: Capital Crescent Trail Access Points

Location	Plan	Access Type			Ramp Width (ft)	Bike Channel Needed	Approximate Travel Time to Next Access Points (min)
		Ramp	Stairs	Along Road			
Elm Street Park	PLFP	X			12		1.5
Pearl Street	PLFP	X			10		7.4
East-West Hwy (west)	PLFP	X			10		0.5
East-West Hwy (east)	PLFP		X				2.4
Sleaford Road	PLFP		X			X	2.9
Kentbury Drive	PLFP	X			10		8.1
Connecticut Avenue (west)	PLFP			X			3.0
Connecticut Avenue (east)	PLFP		X			X	14.4
Jones Mill Road	PLFP	X	X		10		4.4
Rock Creek Trail	PLFP	X			12		5.6
Grubb Road	PLFP	X			12		6.3
Lyttonsville Place	PLFP	X			12		4.6
Stewart Avenue	PLFP			X			4.2
Kansas Avenue	PLFP	X			10		1.5
Michigan Avenue	PLFP			X			along road
Talbot Avenue	PLFP			X			along road
4th Street	PLFP			X			2.5
Lyttonsville Road	PLFP	X			10		5.0
16 th Street (north of tracks)	PLFP	X	X		12	X	along road
Spring Street / 2nd Avenue	PLFP	X	X		12		3.1
Apple Avenue	PLFP	X			12		5.6
Metropolitan Branch Trail	PLFP	X			8		

Note: PLFP = Purple Line Functional Plan; CCLSP = Chevy Chase Lake Sector Plan

Trail access points should have ramps that are at least 8 feet wide, but preferably 12 feet wide where adjacent to walls. All ramps are at least 10 feet wide, though only half are 12 feet wide. There is one major exception.

The connection between the Capital Crescent Trail and the Metropolitan Branch Trail is located on a channel on top of the Silver Spring Transit Center. It appears from the engineering drawings that the channel may narrow to about 8 feet between knee walls, an effective width of 4 feet after reductions for shy distance (Figure 3-9). While this channel was constructed as part of the transit center, it remains inaccessible at this time so staff was unable to measure it. All trails must have an effective width of at least 8 feet to be considered a shared use path. Between two knee walls this would mean the actual width would have to be at least 12 feet wide, to account for shy distance. In any event this is a severe pinch point at one of the busiest locations along the trail, and is complicated by a required right turn once leaving the trail. Widening the connection between the two trails would require a change to the Silver Spring Transit Center green roof to be corrected and is outside of the purview of the Capital Crescent Trail project. However, Montgomery County should:

- *Investigate ways to widen the connection between the Capital Crescent Trail and the Metropolitan Branch Trail to be 16 feet upon completion of the Silver Spring Transit Center to achieve a 12-foot effective width.*

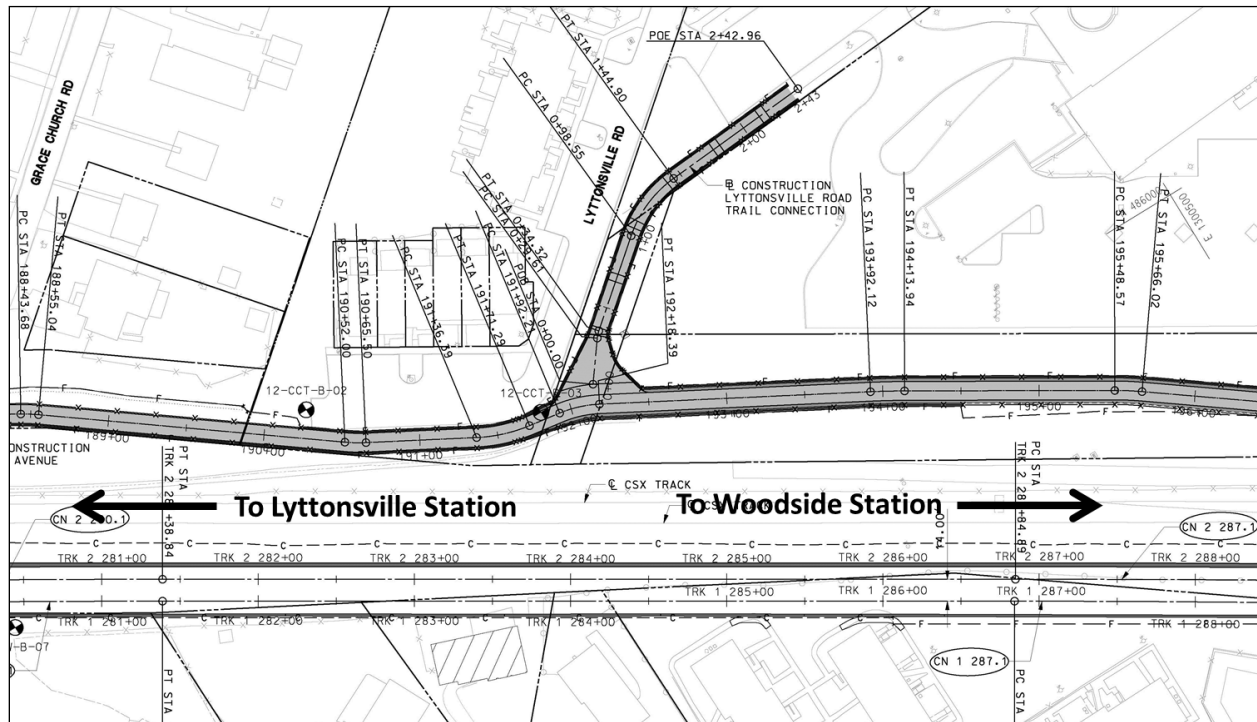
Figure 3-9: Connection between the Capital Crescent Trail and the Metropolitan Branch Trail



In many locations ramps connecting to the Capital Crescent Trail are not flared. This affects sight distance and makes it more difficult to maneuver between the trail and the ramps. One example is the ramp connecting to Rock Creek Trail. A good example of a flared ramp is at the Lyttonsville access point (Figure 3-10).

- All ramp connections to the Capital Crescent Trail should be flared to the extent possible to facilitate access to the trail.

Figure 3-10: Capital Crescent Trail Ramp at Lyttonsville Road



The ramp from the Capital Crescent Trail to the south side of East-West Highway would require an extremely sharp 180-degree turn to go east on East-West Highway, which will be difficult for cyclists to maneuver. It would be beneficial to have a longer landing area at the terminus to facilitate turns by cyclists, though this is complicated by the steep grade of the ramp. While the ramp has a ramp with an 8.25% grade, it may be possible to create this landing area at East-West Highway by shortening the landing area at the junction with the trail.

- To create additional landing space at the western terminus of the East-West Highway ramp, investigate whether it is possible to reduce the length of the landing area at the junction with the Capital Crescent Trail.

In addition, the sidewalk between the bridge and Montgomery Avenue is adjacent to the curb.

- Along East-West Highway, widened the sidewalk to 7 feet and build it against the retaining wall for the ramp so that a landscaped buffer between the sidewalk and the road can be provided. Add an ADA ramp that is aligned with the ramp on the other side of the driveway.

Although Third Avenue is a low volume road, the proposed access point to the trail should avoid a mid-block crossing.

- Realign the trail access point to either Noyes Lane or Noyes Drive to avoid mid-block crossings.

The tie-in between the long ramp that connects Jones Mill Road to the Capital Crescent Trail appears to have inadequate sight distance.

- *Provide a landing area between Jones Mill Road and Capital Crescent Trail that facilitates adequate sight distance and safe connections.*

At the intersection of Jones Mill Road and Jones Bridge Road:

- *The median island on the south leg of Jones Mill Road, across from the ramp, should be 8 to 10 feet wide to facilitate use by southbound bicyclists headed toward the ramp.*
- *The sidewalk in the southwest quadrant of the intersection of Jones Bridge Road and Jones Mill Road should be constructed behind the proposed ramps to facilitate travel by disabled persons as well as to provide storage space for people waiting to cross either street.*
- *The gap between the two traffic islands at Station 1034+00 appears to be too narrow to adequately accommodate left turns from Jones Bridge Road.*

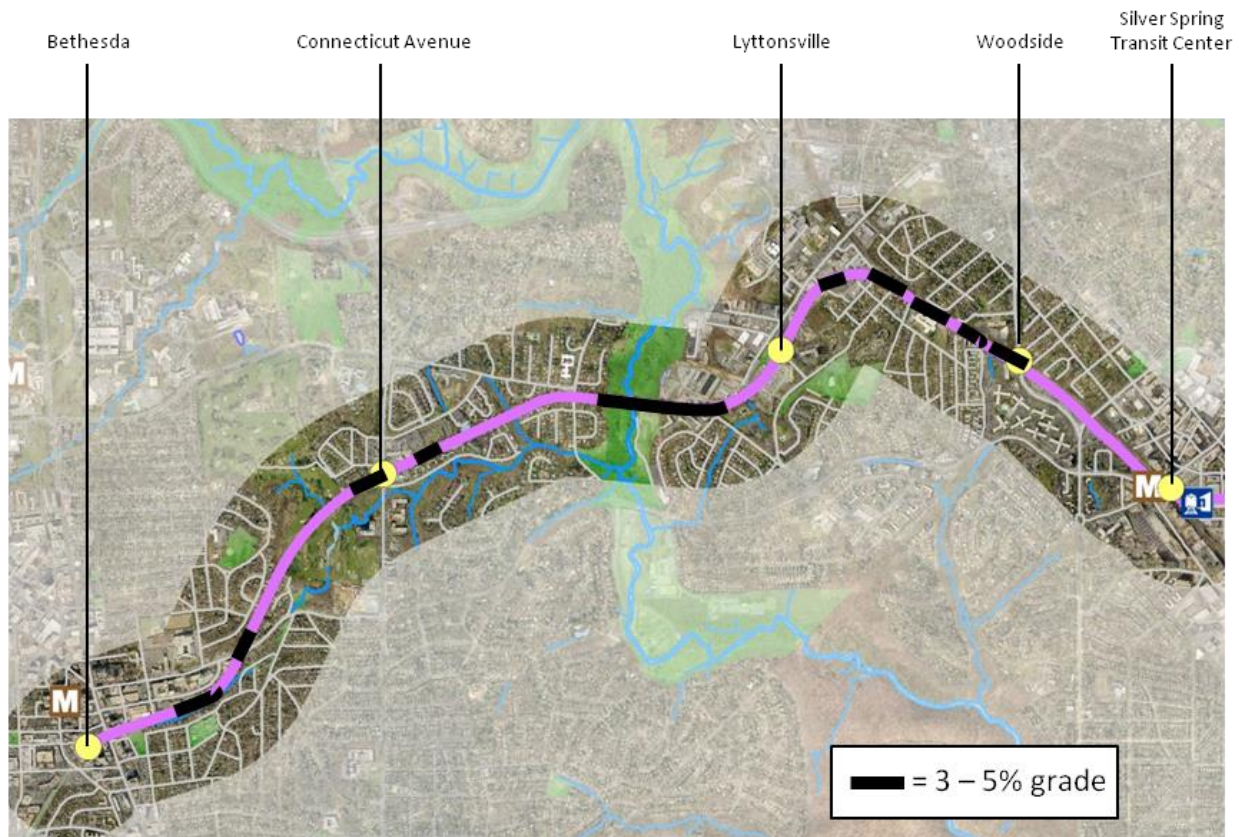
Trail Grades

ADA requirements require shared use paths to have grades less than 5%, except for short distances. The Capital Crescent Trail meets this requirement. In fact, approximately two-thirds of the trail has a grade of less than 3%. The remainder of the trail ranges from a 3% to a 5% grade. By far the longest stretch of trail with steeper grades – approximately one-third mile – is from Jones Mill Road to the western edge of the Lyttonsville maintenance facility. However, between Stewart Avenue and Woodside Station nearly two-thirds of the trail has a grade between 3% and 5%.

Figure 3-11: Approximate Capital Crescent Trail Grades by Segment

Limits	Grade		Total
	0 to 3%	3 to 5%	
Bethesda to Stewart Avenue	72%	28%	100%
Stewart Ave to Woodside Station	33%	67%	100%
Woodside Station to SSTC	100%	0%	100%
Total	69%	31%	100%

Figure 3-12: Approximate Capital Crescent Trail Grades



Source: Montgomery Planning Department

Trail Lighting

At this time the scope of the Capital Crescent Trail project only includes spot lighting at junctions with connecting paths and underpasses. This will effectively deter many pedestrians and cyclists from using the trail during hours of darkness, which for several months of the year is during commuting periods. There are three options for lighting the trail.

- Light the trail to the IESNA standard at a cost of \$5.1 million (2018 dollars)
- Light the trail to the Montgomery County practice at a cost of \$3.8 million (2018 dollars)
- Install conduit for the trail during trail construction, adding the lighting fixtures and wiring at a later point. The cost of design and installing conduit only is about \$600,000 (2018 dollars), and would give the County the ability to provide lighting in the future without major disruption to the trail.

On February 24, 2014, the County Council T&E Committee voted to install conduit for trail lighting.

Noise Walls

The engineering plans show a noise wall for the Purple Line located on the side of the Capital Crescent Trail that is away from the Purple Line. This could create a situation where noise from the Purple Line is augmented on the trail.

- *In the final design, any noise walls planned for installation should be placed directly adjacent to the track. In cases where the trail and the tracks are parallel, the noise wall should be placed between the track and the trail. A fence will be placed on the outer edge of the trail. This will improve the sound and visual quality along the trail by creating a solid buffer from moving rail equipment. (MTA)*

Community Design Analysis

Upon completion, the segment of the Capital Crescent Trail between Silver Spring and Bethesda will likely experience similar popularity to the existing segment between Bethesda and Georgetown. The design of the trail should reflect its importance as a facility of regional significance.

- *Develop and implement a unique signing and branding plan for the Capital Crescent Trail between the Silver Spring Metro station and the Bethesda Metro station. Signing should be provided at regular intervals on the trail, as well as at all access points.*

Figure 3-13: Trail Sign from the Indianapolis Cultural Trail



D . MANDATORY REFERRAL #4: SILVER SPRING GREEN TRAIL

Mandatory Referral No. MR2014036

RECOMMENDATIONS

Staff requests that the Planning Board transmit the following comments on the Silver Spring Green Trail project to Montgomery County.

General Comments

- Ramps for the Silver Spring Green Trail should be a minimum of 8 feet wide and the trail should be pointed directly into the ramp wherever possible rather than coming in at a 90-degree angle.
- Develop and implement a unique signing and branding plan for the Silver Spring Green Trail between Spring Street and Sligo Creek Parkway. Signing should be provided at regular intervals on the trail, as well as at all access points.

Location Specific Comments (for more detail see: www.mcatlas.org/purple)

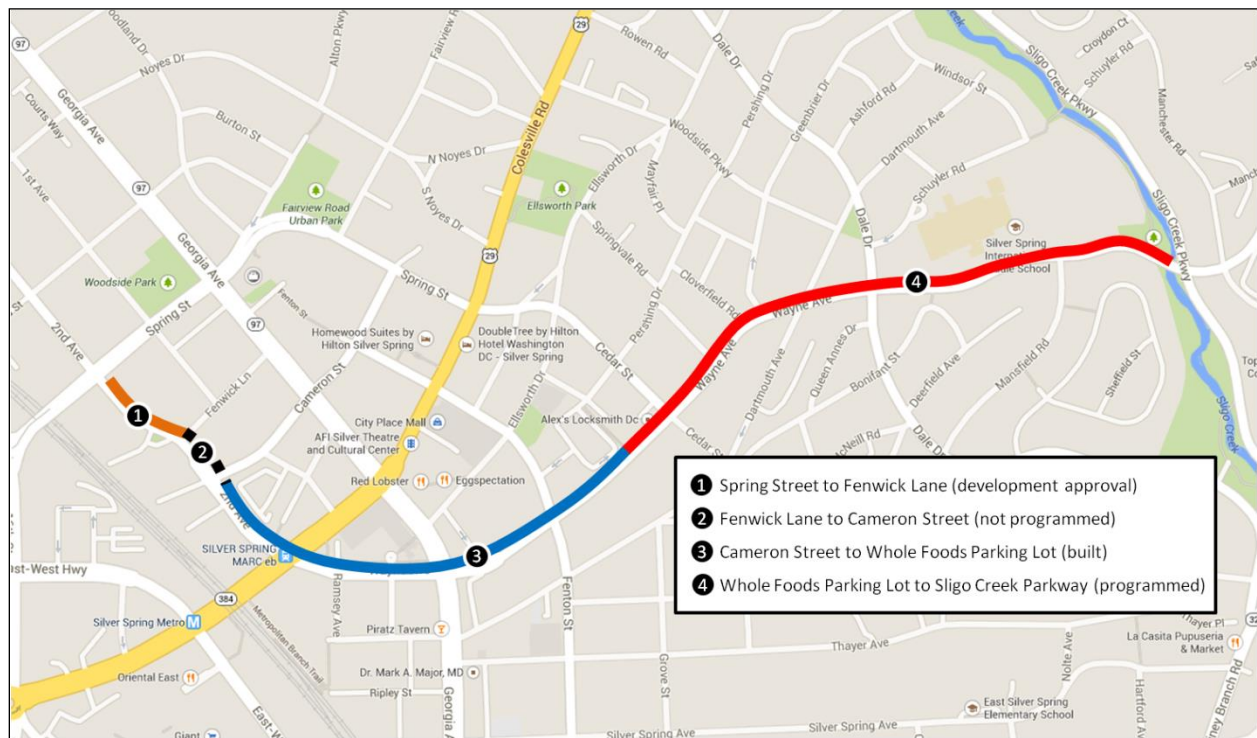
1. Design and construct the last remaining unbuilt and unprogrammed portion of the Silver Spring Green Trail, a one-block segment between Fenwick Lane and Cameron Street.
2. Widen the Silver Spring Green Trail to 10 feet while maintaining a 5-foot-wide buffer with the curb where: 1) there is sufficient right-of-way, and 2) widening the trail would not make retaining walls higher. Candidate locations appear to be between Springvale Road and Greenbrier Drive and in front of the elementary and middle schools.
3. Extend the curb at the northwest corner of Wayne Avenue and Dartmouth Ave to reduce the crossing distance for trail users.
4. Offset the trail from Wayne Avenue by building a retaining wall for the adjacent school parking lot.
5. The connection between the Silver Spring Green Trail and the Sligo Creek Trail should be flared to the extent possible to facilitate access to the trail.
6. The Silver Spring Green Trail on the Wayne Avenue bridge over Sligo Creek should be widened to 14 feet (an effective width of 10 feet) to reflect expected demand. A barrier should be provided between the roadway and the trail on the bridge.
7. The existing stepped brick parapets on the Wayne Avenue bridge over Sligo Creek should be replicated in the design of the new bridge. Ornamental lighting should be added to the bridge due to the high level of pedestrian and bicyclist activity on the bridge, as planned in the design of the existing bridge.
8. Widen the southwest corner of Wayne Avenue and Sligo Creek Parkway to at least 8 feet. Sligo Creek Trail should be relocated behind the traffic signal pole so that users can directly access the ramp to cross Sligo Creek Parkway.

PROJECT DESCRIPTION

The Silver Spring Green Trail is an off-road shared-use path that will run between Spring Street and Sligo Creek Trail along Second Ave and Wayne Ave in downtown Silver Spring. It will connect to the Capital Crescent Trail and the Metropolitan Branch Trail at the Paul Sarbanes Transit Center. This trail is in various stages of completion (see Figure 4-1):

- Segment #1: A developer will be constructing the segment of the trail between Spring Street and Fenwick Lane as part of the development approval for Fenwick Station within the coming year.
- Segment #2: The only unbuilt and unprogrammed segment of trail is between Fenwick Lane and Cameron Street and— about one block.
- Segment #3: The segment of the trail between Cameron Street and the Whole Foods parking lot is complete.
- Segment #4: The current project will extend the Silver Spring Green Trail along Wayne Avenue from the Whole Foods parking lot to Sligo Creek Parkway in conjunction with the Purple Line light rail project. This segment will typically be 8 feet wide with a 5 feet buffer from the road. It will serve a recreational and a transportation function, providing direct access to Purple Line stations and the Silver Spring Metrorail station. It is a Montgomery County project, funded by Montgomery County and will be designed and constructed by MTA.

Figure 4-1: Silver Spring Green Trail Segments



Source: Montgomery Planning Department

MASTER PLAN CONSISTENCY

The Silver Spring Green Trail is consistent with the Purple Line Functional Plan.

STAFF ANALYSIS

The 4th Edition of the Guide for the Development of Bicycle Facilities (aka the AASHTO Bike Guide) states that the typical width of a shared use path is 10 to 14 feet wide, with the wider values applicable to areas with high use and/or a wider variety of user groups (page 5-3). In very rare circumstances, a reduced width of 8 feet may be used where the following conditions prevail:

- Bicycle traffic is expected to be low, even on peak days or during peak hours

- Pedestrian use of the facility is not expected to be more than occasional
- Horizontal and vertical alignments provide frequent, well-designed passing and resting opportunities
- The path will not be regularly subject to maintenance vehicle loading conditions that would cause pavement edge damage

MTA is planning to construct an 8 feet wide trail, but this is not ideal for a number of reasons:

- The Silver Spring Green Trail is likely to have high demand as a connection between the Sligo Creek Trail, Metropolitan Branch Trail, and the Capital Crescent Trail.
- Pedestrian use is likely to be high due to the proximity to the Dale Drive Station, downtown Silver Spring, and the Silver Spring International Middle School.
- The trail is on a steep grade as it climbs from Sligo Creek to downtown Silver Spring. Cyclists riding uphill require additional space to operate their bicycle.

The Planning Board recently made similar comments on shared use path widths as part of its review of Bill 33-13.

While there is limited right-of-way along much of Wayne Avenue, there are locations where the trail could be expanded to the recommended 10 feet. Therefore,

- *Widen the Silver Spring Green Trail to 10 feet while maintaining a 5-foot-wide buffer with the curb where: 1) there is sufficient right-of-way, and 2) widening the trail would not make retaining walls higher. Candidate locations appear to be between Springvale Road and Greenbrier Drive and in front of the elementary and middle schools.*

The distance between ramps on the north side of Dartmouth Avenue is about 70 feet, even though the typical curb-to-curb distance for the rest of the road is about 25 feet. This is excessive for a residential street.

- *Extend the curb at the northwest corner of Wayne Avenue and Dartmouth Ave to reduce the crossing distance for trail users.*

Several ramps on the north side of the Wayne Avenue are shown at an inadequate width to accommodate the Silver Spring Green Trail.

- *Ramps for the Silver Spring Green Trail should be a minimum of 8 feet wide and the trail should be pointed directly into the ramp wherever possible rather than coming in at a 90-degree angle.*

The Silver Spring Green Trail is proposed to be located adjacent to the curb at around Station 383+00.

- *Offset the trail from Wayne Avenue by building a retaining wall for the adjacent school parking lot.*

At the intersection of the Silver Spring Green Trail and the Sligo Creek Trail the connection is not flared. This affects sight distance and makes it more difficult to maneuver between the trail and the ramps.

- *The connection between the Silver Spring Green Trail and the Sligo Creek Trail should be flared to the extent possible to facilitate access to the trail.*

The southwest corner of Wayne Avenue and Sligo Creek Parkway is the receiving end of the Sligo Creek Trail but has a sidewalk width.

- *Widen the southwest corner of Wayne Avenue and Sligo Creek Parkway to at least 8 feet. Sligo Creek Trail should be relocated behind the traffic signal pole so that users can directly access the ramp to cross Sligo Creek Parkway.*

The Wayne Avenue bridge over Sligo Creek is a gateway to Silver Spring and should reflect its importance for motorists, train patrons, and trail users. When rebuilt, the new bridge should convey the same sense of arrival as does the East-West Highway bridge over the Georgetown Branch in Bethesda.

- *The existing stepped brick parapets on the Wayne Avenue bridge over Sligo Creek should be replicated in the design of the new bridge. Ornamental lighting should be added to the bridge due to the high level of pedestrian and bicyclist activity on the bridge, as planned in the design of the existing bridge.*

The Sligo Creek Trail and the Silver Spring Green Trail will converge between the Sligo Cabin Park playground and Sligo Creek Parkway. This segment of the trail is currently a narrow sidewalk adjacent to the curb. MTA is proposing to widen the trail to 8 feet typically, and to 9 feet as it passes over the Wayne Avenue bridge over Sligo Creek. Trail users tend to shy away from the road and bridge parapets by about 2 feet so the effective width of the trail will be only 5 feet on the bridge. This is substandard for any trail, but especially at a location where two major trails converge.

- *The Silver Spring Green Trail on the Wayne Avenue bridge over Sligo Creek should be widened to 14 feet (an effective width of 10 feet) to reflect expected demand. A barrier should be provided between the roadway and the trail on the bridge.*

With the completion of the Purple Line in 2020, only a one block long segment of the trail remains to be completed.

- *Design and construct the last remaining unbuilt and unprogrammed portion of the Silver Spring Green Trail, a one-block segment between Fenwick Lane and Cameron Street.*

The design of the trail should reflect its importance as a connection between the Silver Spring Metrorail station Capital Crescent Trail, the Metropolitan Branch Trail, and the Sligo Creek Trail.

- *Develop and implement a unique signing and branding plan for the Silver Spring Green Trail between Spring Street and Sligo Creek Parkway. Signing should be provided at regular intervals on the trail, as well as at all access points.*